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The Public Health Journal

The Official Organ of the Canadian Public Health Association

Vol. IV.

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TORONTO, ONTARIO

No. 8.

SPECIAL ARTICLES :

DOES VACCINATION PROTECT

JAMES ROBERTS, M.D., HAMILTON, ONT.

THE SCOPE OF SANITARY WORK IN THE HOME

CHAS. A. HODGETTS, M.D., OTTAWA

HOW CAN CROSS-INFECTION BE PREVENTED IN A HOSPITAL FOR COMMUNICABLE DISEASES

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SANITARY WORK AMONG THE FOREIGN POPULATION

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SUPPRESSION PREFERABLE TO SEGREGATION

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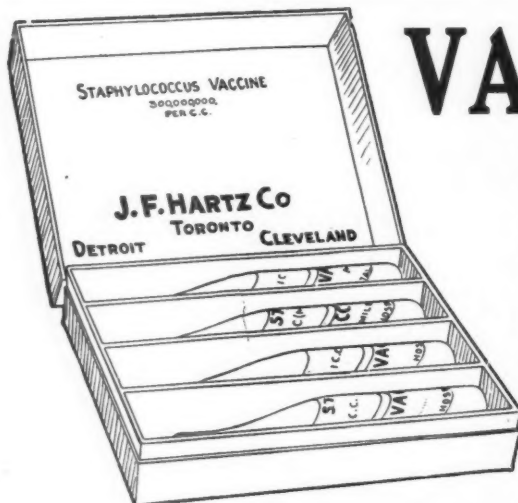
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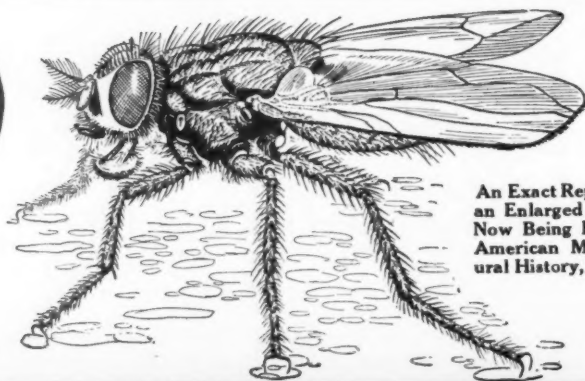
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NO FLY IS FREE FROM GERMS

THE BEST METHOD IS TO PREVENT THEIR BREEDING.

House flies breed in decaying or decomposing vegetable and animal matter and excrement. THEY BREED CHIEFLY IN STABLE REFUSE. In cities this should be stored in dark fly-proof chambers or receptacles, and it should be REGULARLY REMOVED WITHIN SIX DAYS in the summer. Farm-yard manure should be regularly removed within the same time and either spread on the fields or stored at a distance of not less than quarter of a mile, the further the better, from a house or dwelling.

House flies breed in such decaying and fermenting matter as kitchen refuse and garbage. Garbage receptacles should be kept tightly covered.

ALL SUCH REFUSE SHOULD BE BURNT OR BURIED within a few days, BUT AT ONCE IF POSSIBLE. NO REFUSE SHOULD BE LEFT EXPOSED. If it cannot be disposed of at once it should be sprinkled with chloride of lime.

FLIES IN HOUSES.

Windows and doors should be properly screened, especially those of the dining-room and kitchen. Milk and other food should be screened in the summer by covering it with muslin; fruit should be covered also.

Where they are used, especially in public places as hotels, etc., spittoons should be kept clean as there is very great danger of flies carrying the germs of consumption from unclean spittoons.

Flies should not be allowed to have access to the sick room, especially in the case of infectious disease.

The faces of babies should be carefully screened with muslin.

FLIES MAY BE KILLED by means of a weak solution of formalin (40 per cent.) exposed in saucers in the rooms. This is made by adding a teaspoonful of formalin to a pint of water. The burning of pyrethrum in a room is also effective.

House flies indicate the presence of filth in the neighborhood or insanitary conditions.

**ENTOMOLOGICAL DIVISION, CENTRAL EXPERIMENTAL FARM, OTTAWA
DEPARTMENT OF AGRICULTURE, CANADA.**

(Published by direction of the Minister of Agriculture.)

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If the most perfect sanitary conditions and the finest selected Canadian Wheat can do anything towards making a perfect breakfast food—Then

SHREDDED WHEAT

is the real Health Food that is always safe to recommend.

You get the shreds crisp—our process of manufacture allows nothing else—and perfect digestion is assured because the shreds have to be thoroughly chewed and mixed with the saliva.

Grown-ups and children alike swear by SHREDDED WHEAT with fresh berries and cream. This is the most appetising and delicious meal you can imagine. —All good dealers sell SHREDDED WHEAT.

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E. D. Smith's & Son, Ltd.

Jams, Jellies and Marmalade

¶ The Trademark that stands for Quality.

¶ See Government Analysis, (Bulletin No. 244).

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For Light and Nourishing Food it's Always Safe to Recommend

CHRISTIE BISCUITS

the purest of all pure foods—biscuits just as near perfection as first-class ingredients and scientific baking, by twentieth century methods, can make biscuits.

Christie Biscuits mean the best ingredients money can buy—all first-class table quality—mixed and baked in the Christie scientific way and packed in dust and damp proof tins and packages to assure lasting goodness. You may heartily recommend Christie Biscuits, if you want to recommend the best biscuits on the market—not because we say so, but because the particular housewives of Canada have proved them so.

N.B.—Our Zephyr Cream Sodas crushed in Cream or Fresh Sweet Milk certainly do make a light and nourishing breakfast.

CHRISTIE, BROWN & CO., Limited

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is often to get out on the land. ONTARIO LANDS offer both prosperity and health to those who desire to take advantage of the opportunities afforded. In old Ontario there are fruit lands, vegetable lands and mixed farming lands available at reasonable prices which offer prospect of advancement in value within the next few years in addition to the value of the annual returns. They also include many of the conveniences of modern life, as well as the beauties of nature.

In New Ontario there are lands available in some places for nothing and in others at a nominal price of fifty cents per acre, which are capable of producing almost all kinds of crops, and which constitute one of the best chances at the present time for the settler who desires to take up cheap lands.

Further information will be supplied on application to

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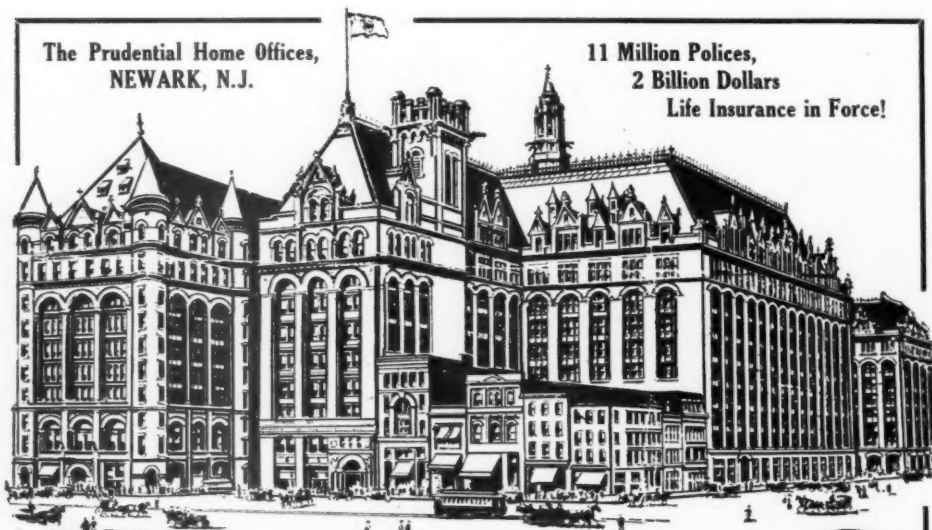
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Cor. BLOOR WEST and BATHURST

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Saturday, Sept. 6
Saturday, Sept. 20

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Royal George

BRISTOL

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Saturday, Sept. 20
Saturday, Oct. 4

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MEAN SPEED FOR THE BUSINESS MAN.

*Luxurious Saloons, Comfortable Cabins and Spacious
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OFFER ENJOYMENT TO THE TOURIST.

*Absence of Vibration, Thorough Ventilation, and per-
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226 St. James St., Montreal, Que.
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Canada Permanent Mortgage Corporation TORONTO STREET TORONTO

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First Vice-President	- - -	W. D. MATTHEWS
Second Vice-President	- - -	G. W. MONK
Joint General Managers	- - -	R. S. HUDSON
		JOHN MASSEY
Superintendent of Branches and Secretary,		GEORGE H. SMITH

PAID-UP CAPITAL	- - -	\$ 6,000,000.00
RESERVE FUND (earned)	- - -	4,000,000.00
INVESTMENTS	- - -	31,299,095.55

This Corporation is a **LEGAL DEPOSITORY FOR TRUST FUNDS.**

Every facility is offered Depositors.

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Deposits of one dollar and upwards are welcomed.

Interest at **THREE AND ONE-HALF PER CENT.**
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DEBENTURES For sums of one hundred dollars and upwards we issue Debentures bearing a special rate of interest, for which coupons payable half-yearly are attached. They may be made payable in one or more years as desired. They are a **LEGAL INVESTMENT FOR TRUST FUNDS.**

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YOU would not be your own Lawyer? Neither would
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Submit propositions to us for approval. We know
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"WHAT'S IN A NAME?"

Asks Shakespeare

There is one name at least—"THE MUTUAL LIFE ASSURANCE COMPANY OF CANADA"—that is significant, for among all the Canadian legal reserve companies, it is the only one organized on the Mutual principle.

In a Mutual company there is no stock, there are no special dividends; the policyholders are credited with the whole surplus. It is co-operative and economical life insurance—"straight from Manufacturer to Consumer."

The Mutual Life Assurance Company of Canada

Waterloo, - Ontario

CANADA'S ONLY MUTUAL



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FIRE INSURANCE
SOCIETY LIMITED**

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Agents wanted for the Accident Branch

Head Office for Canada
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Hearts of Oak

IT takes decades to bring the oak from the acorn; but the oak breasts any gale that blows.

For nearly a third of a century the North American Life has driven its roots deep into the bed-rock of financial stability.

To-day its financial position is impregnable.

It is heart-of-oak.

Every North American Life Policy is backed by Thirteen and One Quarter Million Dollars of Assets and by three decades of upright business practice.

The North American Life is a *safe* Company in which to insure.

North American Life Assurance Company

"SOLID AS THE CONTINENT"

Head Office

-

Toronto, Canada

A CANADA LIFE POLICY BECOMES A SOURCE OF INCOME

• Policy No. 35,407.	Amount \$5,000.
Life, 20 Payments.	Age at Entry 35.
	Date, 30th April, 1884.
Total amount of premiums paid	\$3,140.40
Profits paid in cash during premium	
paying period	\$729.10
Profits paid in cash 1905	143.90
" " " " 1910	198.00
	<hr/>
	\$3,140.00
Actual cost to 1910	\$1,071.00
	<hr/>
	\$2,069.00

Note that since 1905 without the payment of any further premiums the policy has been yielding an increasing income.

CANADA LIFE ASSURANCE CO.

HEAD OFFICE: TORONTO, ONT.

CONTINENTAL LIFE

Insurance Company

HEAD OFFICE - TORONTO

"BROAD AS THE CONTINENT, STRONG AS THE EMPIRE."

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GOOD LIFE INSURANCE POLICY

The POLICIES of the CONTINENTAL LIFE are liberal and unrestricted, and carry the highest guaranteed Cash and Loan Values, Paid-up and Extended Assurance Options.

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GEORGE B. WOODS,
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CHARLES H. FULLER,
Secretary and Actuary.

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The Mortality Experience of the

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has on the average been well below 50% of that expected according to the Standard Male Mortality Table. Dominion Life policyholders may, therefore, be classed as the Healthiest of Healthy Lives.

Light Mortality means Big Profits to Policyholders.

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D. R. WILKIE

President, General Manager

Capital Authorized	-	-	-	-	\$10,000,000.00
Capital Paid Up	-	-	-	-	6,800,000.00
Reserve Fund	-	-	-	-	7,000,000.00

SAVINGS DEPARTMENT

INTEREST ALLOWED ON DEPOSITS AT BEST CURRENT RATES

"GOOD AS GOLD"

ARE THE
POLICIES

OF THE

London Life

—Insurance Company—

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Maturing 20-Year Endowment
in the ordinary Branch show
returns of \$140 per \$100 paid in
premiums.

Full Insurance Protection in
addition.

Ask for samples of Actual
Results.

THE CENTRAL CANADA LOAN AND SAVINGS CO.

26 King St. East, Toronto.

Total Assets	\$9,782,000.
Capital (sub.)	\$2,500,000.
Capital (paid up)	\$1,750,000.
Reserve Fund	\$1,550,000.

Deposits received and debentures issued.

President

Hon. Geo. A. Cox

Managing Director
E. R. Wood

Assistant Manager
G. A. Morrow

The National Life Assurance Co. of Canada

Head Office: National Life Chambers,
Toronto and Adelaide Streets.

ELIAS ROGERS,
ALBERT J. RALSTON,

President.
Vice-President and Managing Director.

Applications received for new assurances for the first three months of 1913 \$3,000,000.00, which is an average of a million dollars monthly.

The total volume of business in force on the first of April, 1913, over \$20,000,000.00.

So far as the Company's investments are concerned, we again report on April 1st, 1913, no arrears of interest or principal. No losses. This is a continuous record covering a period of over fourteen years.

FOR AGENCIES APPLY DIRECT TO HEAD OFFICE.

Awake to Your Responsibilities

It is your duty to provide the best possible for your loved ones, and to see to it that the benefits which they enjoy during your lifetime are not curtailed to any great extent after your death. Be sure that your estate is such that it will provide cash when most needed without any sacrifice of securities owing to forced sale.

Life Insurance is the only remedy. Get a policy in

THE Manufacturers Life Insurance Company

Head Office:—King and Yonge Streets
TORONTO

YOUR HEALTH IS GOOD

to-day, perhaps, but that is no guarantee that it will be good *to-morrow*.

You may be able to get life assurance *to-day*.

To-morrow—who knows?

Life Assurance creates immediately, for the benefit of your family in the event of your death, an estate that it would take long years to accomplish by other means.

SUN LIFE ASSURANCE COMPANY OF CANADA

THE ROYAL BANK OF CANADA

Capital Authorized	-	-	\$25,000,000
Capital Paid Up	-	-	\$11,560,000
Reserve Funds	-	-	\$13,000,000
Total Assets	-	-	\$180,000,000

HEAD OFFICE: MONTREAL.

H. S. HOLT, President

E. L. PEASE, Vice-President & General Manager

315 Branches in CANADA and NEWFOUNDLAND; 30 Branches in the WEST INDIES

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The Postal Life Insurance Company pays you the commissions that other companies pay their agents

ON entrance into the Company you get the agent's average first-year commission less the moderate advertising charge. Other companies give this commission-money to an agent: the POSTAL gives it to you.

That's for the first year: in subsequent years POSTAL policyholders receive the *Renewal Commissions* other companies pay their agents, namely $7\frac{1}{2}\%$, and they also receive an *Office-Expense Saving* of 2%, making up the



Postal Life Building

Annual Dividend of **$9\frac{1}{2}\%$** Guaranteed in the Policy

And after the first year the POSTAL pays contingent dividends *besides*—depending on earnings as in the case of other companies.

Such is the POSTAL way: it is open to you. Call at the Company's offices if convenient or *write now* and find out the exact sum it will pay you at your age—the first year and every other.

POSTAL LIFE INSURANCE COMPANY

WM. R. MALONE, President
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STRONG POSTAL POINTS

First: Old-line legal-reserve insurance—not fraternal or assessment.

Second: Standard policy reserves, now \$10,000,000. Insurance in force \$50,000,000.

Third: Standard policy provisions, approved by the State Insurance Department.

Fourth: Operates under strict State requirements and subject to the United States postal authorities.

Fifth: High medical standards in the selection of risks.

Sixth: Policyholders' Health Bureau provides one free medical examination each year, if desired.

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In writing simply say: "Mail me insurance-particulars for my age as per PUBLIC HEALTH JOURNAL"

In your letter be sure to give:

1. Your Full Name.
2. Your Occupation.
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No agent will be sent to visit you: the Postal Life employs no agents.

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in force:
\$50,000,000

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ESTABLISHED 1867.

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Alexander Laird, General Manager.

John Aird, Assistant General Manager

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In addition to the offices named above, the Bank has branches in every province of Canada and is therefore particularly well equipped for the handling of collections and the transaction of every description of banking business.

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Travellers' Cheques are a most convenient form in which to carry money when travelling. They can be used either at home or abroad and the exact amount payable in foreign money is printed on the face of each cheque. The cheques are issued in denominations of \$10, \$20, \$50, \$100 and \$200, and are obtainable at any branch of the Bank.

Letters of Credit issued negotiable in all parts of the world.

INVEST YOUR SAVINGS NOW

and Create a Reliable Asset.

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(CANADIAN BRANCH)

Head Office, MONTREAL.

ALEX. BISSETT, Manager for Canada

Policies World-Wide and Free from Restrictions.

PROFESSIONAL MEN

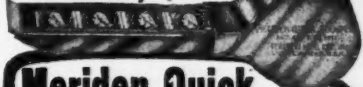
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Compact and serviceable.

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Sticks 3,000 Stamps
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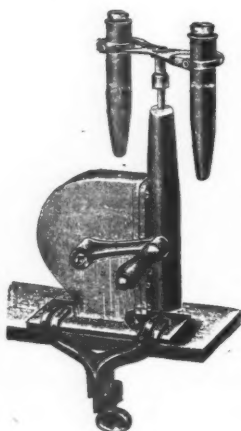


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¶ We have supplied a number of Municipalities with water power CENTRIFUGES for use in their medical health department. This is a very satisfactory apparatus where a medium water pressure is obtainable and can be supplied complete at \$12.00 each.

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We have without a doubt the best value in Canada, we can give you your choice of routes, if you are going abroad give us a call, we can book you by almost any steamship line you may choose.

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- TORONTO, CANADA

PROVINCE OF ONTARIO



Board of Health

A PUBLIC HEALTH EXHIBIT under the auspices of the Provincial Board of Health of Ontario will be a feature of the Canadian National Exhibition held in the City of Toronto for two weeks beginning the latter part of August in each year. This exhibit will consist of Public Health Equipment of every kind and will include also a varied assortment of apparatus, etc., relating to Prevention of Disease.

In addition, a Lecture Room is provided where lectures, demonstrations, etc., will be given daily. Interest in these lectures will be greatly enhanced by the use of an excellent reflectoscope and several hundred lantern slides.

When articles to be exhibited are not of Canadian Manufacture, it will be necessary for the exhibitor to ship such articles IN BOND. At the close of the Exhibition, if not exported, the goods may be sold and the duty then paid.

There will be no charge for space, etc. Intending exhibitors desiring further information will please communicate with

JOHN W. S. McCULLOUGH, M.D.,

Chief Health Officer of Ontario,

Parliament Buildings,

Toronto, Canada.

Department of Education

Official Calendar

August:

1. Legislative grant for Urban Public and Separate Schools payable to Municipal Treasurers, for Rural Public and Separate Schools payable to County Treasurers and first instalment to District Trustees, and special grant to Urban School Boards. (On or before 1st August.)
Notice by Trustees to Municipal Councils respecting indigent children, due. (On or before 1st August.)
Estimates from School Boards to Municipal Councils for assessment for School purposes, due. (On or before 1st August.)
High School Trustees to certify to County Treasurers the amount collected from county pupils. (On or before 1st August.)
11. Examinations for Commercial and Art Specialists begin.
15. Last day for receiving applications for admission to Model Schools.
30. Last day for receiving appeals against the Midsummer Examinations. (Before September 1st.)

September:

1. Last day for receiving application to write on Supplemental Matriculation Examination. (Up to September 1st.)
Labor Day. (1st Monday in September.)
2. High, Continuation, Public and Separate Schools open. High Schools open, 1st Tuesday in September. (1st day of September.)
Last day for receiving applications for admission to Normal Schools. [Normal School syllabus.]
Model Schools open. [Model School syllabus.]
8. Supplemental Matriculation Examination begins.
9. September Normal Entrance Examination in Lower School subjects begins.
23. Normal Schools open. [Normal School syllabus.]
30. Trustees to report to Inspector amount expended for Free Text Books. (Before 1st October.)

A WORD UPON CORSETS

By MADAME MARIE

PRESIDENT

International Hygienic Corset and Accessories Association, Limited

The science of Corset Cutting, Fitting, and knowing how to fit and wear a Corset is a most important matter to the female of this generation, and certainly no one should be allowed to practice Corset Making or Fitting unless understanding the anatomy of the human frame. Although a Corset should beautify, yet, in every case great care should be taken that it never disorganizes any part of the muscles or organs of the female figure and cause prolapsed bowels, weak and crushed stomachs, weak backs, stooping shoulders, acidity of the stomach and accumulation of gases in the abdomen.

Madame Marie does not claim to have medical knowledge, but has spent her life amongst suffering women, and has proven that most of that suffering could and would be prevented, if more attention were paid to the hygienic principle of the Corset.

To begin with, we must recognize that every female child is a prospective mother of the future, and that, although our men very rarely wear Corsets, they are the offspring of the woman; we of this generation do not wish to promote hereditary weakness, yet our own common sense must ask, when the woman's most vital organs are crowded and crushed into a very badly designed straight waistcoat, miscalled a Corset, what chance has the woman or the child of a healthy mind and body?

The experience obtained during twenty years' strenuous work amongst women and a study of their needs and requirements convinces me that the medical profession cannot too strongly condemn the wretchedly shaped Corsets which are sold by the million, and cannot too strongly advise their patients of the necessity of properly fitted Corsets.

When a woman is likely to become a mother, under any circumstances she has been wearing Corsets good or bad, and I can clearly prove they are mostly bad. When she married she was a bonnie healthy girl, but in most cases after one year of married life, and that very important change has taken place she becomes a weak, nervous, broken-down wreck.

The medical profession are almost unanimous in their condemnation of the modern Corset as being the most prolific cause of that breakdown and productive of the hundred and one evils that surround the complaints of women.

In conclusion, might I emphasize the fact that only experience is of any use in advising a woman what to do to obtain relief, and to end her sufferings by obtaining attention and a proper support.

Consultations at any time by appointment at own home or at headquarters of the company.

International Hygienic Corset and Accessories Association, Limited

608 Yonge Street, Toronto.

Phone North 6269

The Law

MEDICINE

is of all the arts the most noble; but owing to the ignorance of those who practice it, and of those who, inconsiderately, form a judgment of them, it is at present far behind all the other arts. Their mistakes appear to me to arise principally from this, that in the cities there is no punishment connected with the practice of medicine (and with it alone) except disgrace, and that does not hurt those who are familiar with it. Such persons are like the figures which are introduced in tragedies, for as they have the shape, and dress, and personal appearance of an actor, but are not actors, so also physicians are many in title but very few in reality.

WHOEVER

is to acquire a competent knowledge of medicine, ought to be possessed of the following advantages; a natural disposition; instruction; a favorable position for the study; early tuition; love of labor; leisure. First of all a natural talent is required; for, when Nature opposes, everything else is in vain; but when Nature leads the way to what is most excellent, instruction in the art takes place, which the student must try to appropriate to himself by reflection, becoming an early pupil in a place well adapted for instruction. He must also bring to the task a love of labor and perseverance, so that the instruction taking root, may bring forth proper and abundant fruits.

INSTRUCTION

in medicine is like the culture of the production of the earth. For our natural disposition is, as it were, the soil; the tenets of our teacher are, as it were, the seed; instruction in youth is like the planting of the seed in the ground at the proper season; the place where the instruction is communicated is the food imparted to vegetables by the atmosphere; diligent study is like the cultivation of the fields; and it is time which imparts strength to all things and brings them to maturity.

HAVING

brought all these requirements to the study of medicine and having acquired a true knowledge of it, we shall thus, in travelling through the cities, be esteemed physicians not only in name but in reality. But inexperience is a bad treasure, and a bad fund to those who possess it, whether in opinion or in reality, being devoid of self-reliance and contentedness, and the nurse both of timidity and audacity. For timidity betrays a want of powers, and audacity a want of skill. There are, indeed, two things, knowledge and opinion, of which the one makes the possessor really to know, the other to be ignorant.

THOSE

things which are sacred are to be imparted only to sacred persons; and it is not lawful to impart them to the profane, until they have been initiated in the mysteries of the science.

HIPPOKRATES.

"GUARDIANS OF OUR HEALTH"



GEORGE CLINTON, M.D.

Health Officer, No. 4 District

BELLEVILLE, ONTARIO

The Public Health Journal

The Official Organ of The Canadian Public Health Association.

VOL. IV

TORONTO, CANADA, AUGUST, 1913

No. 8

Special Articles

DOES VACCINATION PROTECT? *

By JAMES ROBERTS, M.D., M.O.H., HAMILTON, ONT.

A paper read before the Ontario Health Officers' Association, Parliament Buildings, Toronto.

My object in choosing this subject is to place before you some epidemiological evidence in support of vaccination derived from the observation of over two hundred cases of smallpox occurring in my own municipality during the past year.

Certainly I have no thought of attempting to precipitate at a conference of health officers a discussion on the efficacy of vaccination. To you who have had actual experience in handling smallpox outbreaks, and familiar also with the history of the diseases in the days before Jenner, that would appear as ironical as to discuss the efficacy of anti-toxin in diphtheria or to wrangle over the value of asepsis in surgery. Rather at the outset do I plead an utter surprise and astonishment at the anomalous position in which public health officials are finding themselves with increasing frequency whenever it becomes necessary to enforce strictly the provisions of the Vaccination Act.

It is not a flattering commentary on our publicity work of the past that within little more than 100 years after a discovery which has conquered one of the worst, if not the worst, enemy the human race has ever known, an incredible number of persons, mostly of a decent, law-abiding sort, can be found who know little or nothing

about what it is, what it has done, or what it is capable of doing. If ignorance were the only indictment that could be urged against the descendants of the generation which produced Jenner, a certain amount of guilt could be charged to our own negligence and indifference, since to us keepers of the legends of the healing art has been entrusted the education of the people. Unfortunately, however, not to ignorance alone, by any means, can we assign the opposition which confronts the health officer in almost every part of the country when attempting to efficiently control the spread of smallpox. The passive resistance to vaccination which manifests itself only in a tendency to be stubborn and dogmatic, may perhaps be attributed to lack of knowledge. Very frequently the opposition comes from persons showing a natural inclination to be obstinate. The majority of these become amenable to reason if it can be shown to them that by not being vaccinated they will be inconvenienced or will be at financial loss. If property owners show them that smallpox outbreaks cost money and raise the taxes, at once they become converts to vaccination. Persons of this class, I am content to regard as misguided if you like, rather than in a less charitable light. They are the seed bed in which are sown

the prejudices and falsehoods which militate to the public detriment.

Concerning the attitude of the great body of thinking persons who constitute the backbone of a community, I am glad to be able to express here, after an experience of nearly eight years in active public health work, my sincere belief that when approached in the proper spirit they are easily convinced of the facts regarding vaccination.

With the anti-vaccination faddist and fanatic the case is altogether different. He is a crank on vaccination simply because he did not happen to become a crank on Christian Science or something equally preposterous. On the occurrence of small pox in a town he immediately begins his campaign of misrepresentation. He endeavors to stir up disquiet and alarm by long columns in the press on the alleged dangers of vaccination. Forgetting that the health officer is a public servant, paid to carry out the law irrespective of his personal convictions or inclinations, Mr. Anti-Vaccinationist scarcely ever forgets to make his attack on vaccination degenerate into personalities against that official. Such attacks are at times not only contemptible, but insulting. Occasionally these pseudo-scientists flood the mail-bags and molest the front doors of respectable citizens with the printed matter as truthful and reliable as the advertisements of Peruna or Wizard Oil. The health officer is pestered with anonymous communications. To his careful consideration are submitted specifics for the cure of smallpox in which the principal ingredients range in potency from foxglove at one end of the pharmacopeia to sulphur and cream-of-tartar at the other. In my limited experience, I have received several anonymous letters respecting the danger of contracting loathsome diseases from vaccination, that were as distasteful as they were immoral.

One naturally shrinks from laying oneself open to a charge of indulging in diatribe, but to you, as medical men, it must be painfully apparent that the propagandism of the ever-increasing "anti's to scientific progress" constitute more of a reason why thoughtful people should sit up and take notice, than do the diableries of the militant suffragettes. If the motives of those who

truckle to the susceptibilities of the ignorant, could always be discovered, they would be found in a great majority of instances to be ulterior. It becomes imperative therefore that experiences like those occurring recently in connection with smallpox outbreaks and resulting directly or indirectly in loss of time, loss of money and suffering of many people, should be curtailed.

If we examine the arguments against vaccination as commonly put forward in the newspaper articles of those who affect to be convinced of the objectionable features of the practice, they will be found usually to bear reference to one or more of the following:

(1) The Leicester and other recent epidemics in England.

(2) The authority of certain statesmen, scientists, etc.

(3) The report of the British Royal Commission.

(4) The alleged effect of general sanitation on the spread and virulence of smallpox.

(5) The dangers attendant on vaccination.

I shall confine my remarks to two only of the headings mentioned,—the first and the last.

The facts in connection with the Leicester epidemic are as follows:

"Two vaccinated children were attacked with smallpox, neither of whom died; 107 unvaccinated children of the same age period were attacked, of whom 15 or 14 per cent. died; 197 vaccinated persons were attacked, of whom two died, or 1 per cent.; 51 unvaccinated persons over 10 years of age were attacked, of whom 4, or nearly 8, per cent. died.

In Sheffield of 18,020 vaccinated persons of all ages living in infected houses, 4,151, or 23 per cent., were attacked; of 736 unvaccinated persons under the same conditions, 552, or 75 per cent., were attacked; of 4,493 vaccinated children under 10 in infected houses, 353, or about 8 per cent., were attacked; of 263 unvaccinated children, 228, or almost 87 per cent., were attacked; 10 out of 11 of the vaccinated children escaped; 7 out of 8 of the unvaccinated children took smallpox. Similar ratios were obtained from the epidemic of Dewsbury and Gloucester."

We leave these figures to the opponents of vaccination for such consolation as they may be able to derive from them.

There is no necessity, however, of hoisting the anti-vac. with his own petard by quoting for his benefit facts and figures from the records of health officials in European countries when statistics are available from nearer home. In our own city, during the year April 15th, 1912, to April 15th, 1913, 214 cases of smallpox in all were diagnosed, or discovered by, or reported to the health officer. The disease was imported by some negroes who came from a small village in North Carolina, where there had been a considerable epidemic. From this source we had 11 cases. Owing to the circumstance of the families living within a narrow radius of one another and intermingling with persons only of their own race, we were able to prevent any further spread of the disease. Later on, about May 15th, a young woman on a visit to Hamilton from Norfolk County, brought with her what was supposed to be or had been diagnosed chickenpox. The Health Department received notification of case number 12 of smallpox traceable to this suppositious case of chickenpox. Eleven people, none of whom were ever vaccinated, were infected in the family visited. A young man of 25 years had a fairly good scar, and was the only one to escape. In the meantime the infected persons having the eruption in mild form had been following their usual occupation. Consequently, it was rather difficult to get at all the contacts and effectually stamp out the disease. Cases were cropping up from time to time until the middle of September, up to which date they numbered 43. With none further until November 18th, a period of over two months, when the disease appeared in epidemic form, necessitating vaccination of school children and of store and factory employees in every section of the city. If, as appears rational, our sudden outburst of cases in the latter half of November and December was due to a group of missed and ambulatory cases during that period, you will easily realize how mild was the type of the disease. This was not true in every instance—several of our patients having the eruption in a rather severe form with considerable pitting and disfiguration.

Contrary to current acceptance in medical circles, epidemics of remarkable mildness and low mortality were well-known and recognized both before the close of the 18th century and after. Jenner, in 1798, describes such an outbreak thus: "About seven years ago a species of smallpox spread through many of the towns and villages of this part of Gloucestershire. It was of so mild a nature that a fatal instance was scarcely ever heard of, and, consequently, so little dreaded by the lower orders of the community that they scrupled not to hold the same intercourse with each other as if no infectious disease had been present among them. I never saw nor heard of an instance of its being confluent. The most accurate manner, perhaps, in which I can convey an idea of it is by saying, that had fifty individuals been taken promiscuously and infected by exposure to this contagion they would have had as mild and light a disease as if they had been inoculated with variolous matter in the usual way. The harmless manner in which it showed itself could not arise from any peculiarity either in the season of the weather, for I watched its progress upward of a year without perceiving any variation in its general appearance. I consider it, then, as a variety of the smallpox."

In most of the epidemics throughout Canada and the United States during the past fifteen or twenty years, smallpox has exhibited this mild form and the question why this has been the case is one upon which authorities are not agreed.

With regard to age period of attack in our 214 cases it may be worth while to point out that of persons under one year there were 4; from 1 to 5 years, 21; 5 to 10 years, 36; 10 to 20 years, 56; 20 to 30 years, 39; 30 to 40 years, 32; that in persons under five there were 25 cases, under ten 61; over ten years of age, 153 cases. The figures therefore confirm the fact of vaccination having changed the age incident of smallpox entirely since the practice of vaccination in childhood has become common. In Northnagles' Encyclopaedia, Dr. Immerman of Basle quotes the epidemic which occurred in the Prussian Province of Posem to show the incidence of smallpox among children in the pre-vaccination days. In this epidemic, out of 1,252 persons attacked with variola,

1,184, or nearly 95 per cent. of the entire number were children under ten years of age. Other epidemics of the eighteenth century might be quoted in support of the above contention. As with measles, the extreme contagiousness of the disease and the universal susceptibility to it led to the immunization for life of those who survived its ravages. In this connection the report of the British Royal Commission is most emphatic. It affirms that: "Smallpox in pre-vaccination days, a disease of infancy and childhood, has in the United Kingdom become a disease mostly of adults. The shifting of age incidence can only be accounted for by the custom of vaccination in infancy. In this day, when smallpox attacks young unvaccinated children, it is found to be as virulent as, or even more virulent than smallpox in the unvaccinated at higher ages. On the other hand, smallpox is practically unknown among well-vaccinated children. When quite exceptionally such children have been attacked the disease has been so trivial in character as to be liable to escape recognition altogether."

As regards the sex of our cases, there was nothing worthy of note. The infection in nearly every instance began as a home infection or a school infection, so that the proportion of males and females was fairly even; 92 of the latter to 122 of the former.

One hundred and three families were infected, comprising 658 persons. Two patients were employees in the provincial hotels, four were inmates of a city institution, and one a physician.

A careful examination of the total number of exposed persons showed 267 who had been vaccinated previous to the appearance of smallpox in the family. The operation had been done on almost the entire 267 at a very early age and on less than a dozen had re-vaccination ever been performed. On the discovery of the first case in a household, all of the unprotected were vaccinated without delay, no matter in what stage of the disease the patient was found. In 164 out of 177 persons in these houses the operation was successful. Of the remaining 13 three were protected by reason of the fact that they had had smallpox and one by an attack of cowpox during her girlhood days on her father's farm. I might here call at-

tention to the experience of one of my assistants, a veterinary surgeon, who was with me and saw and examined a considerable percentage of all the persons affected. At 30 years of age, while engaged in the practice of his profession, he had contracted the bovine pox, with the result that all attempts at vaccination since that time have been unsuccessful. There is not a shadow of doubt in my own mind or his own as to his absolute immunity to the variolous disease. Upon careful enquiry by my assistants and myself, I have been able to find of the 207 patients under treatment in private residences and boarding houses only five who had ever been vaccinated or possessed the slightest indication of a scar. One of these was a man of forty, another a man of over 70 years. Three were women of between 40 and 50 years. All five had been vaccinated when very young. With four of them the disease was so mild in form as to give scarcely any inconvenience. They were able to remain on their feet during its whole course, were never in danger and even the premonitory symptoms were mild. In all other instances except the five mentioned, the unvaccinated of the family were the only persons attacked. The vaccinated were the ones that did not become infected. There were six cases in one of our largest public schools and cases in several of the others. None of these children had ever been vaccinated. Their playmates at school—brothers, sisters and parents—where vaccinated failed to take the disease. The vaccinated inmates of the houses where the infection entered proved to be immune; the unvaccinated were the victims. In less than $2\frac{1}{2}$ per cent of the cases was this not true, and the experience of Dr. Bell, Provincial Inspector, is strongly corroborative of my own when he states that in four or five thousand cases of smallpox he has seen within the last eight years, 5 per cent. is an exaggerated estimate of the number of patients vaccinated previous to taking the disease.

Of the cases already mentioned occurring in an institution for the care of the incurable, the initial one developed in a woman ten days after her arrival from the City Hospital. Two weeks subsequently a man of 56, in a small ward of seven or eight patients, developed the disease, and

in another two weeks his neighbor in the same ward came down, while an at first typical, but finally abortive, vaccine vesicle was running its course on his left arm, on which appeared a fairly good scar from a vaccination in childhood. At the same time a boy of 14 years, in a private ward some distance away, had a characteristic but extremely scattered eruption on face, arms and legs. So that, although more than a score of persons—nearly all of them aged and not vaccinated since childhood—were exposed, one only, a man over 70, was attacked with smallpox because of his immunity being low or absent, as evidenced by the susceptibility to the vaccine disease. The three unvaccinated persons were attacked with variola—one of them in severe form. With a single exception, not one of the old people on whom vaccination had never been performed since childhood, was the operation successful. This was not only a surprise to my expectations, but to my former belief in the length of immunity conferred by a primary vaccination in early life.

One other circumstance will suffice to conclude my observations in regard to this series of cases, although others might be cited both interesting and instructive. Early in December, a young man of 16 years having smallpox in mild form, called at the office of Dr. X. He was examined by the doctor's assistant, prescribed for and sent home. I was notified the next day, and quarantined the house as usual. Our young confrere, who had never been vaccinated and still neglected the precaution, had, at the end of a two-weeks' incubation period, a rather impressive demonstration, I fancy, of the fact that not only is smallpox an extremely contagious disease, but is no respecter of persons, and also that a degree in medicine confers no special immunity. About one-half, I think, of the one hundred practitioners in Hamilton had the opportunity of seeing smallpox in various stages. The one unvaccinated doctor in the city of all those who came in contact with the disease was the only doctor to take the disease himself.

The few scraps of evidence presented in the preceding paragraphs are scarcely sufficient to arouse even the curiosity of those familiar with the behavior of smallpox. To the ordinary mind, the facts are

sufficient to convince that vaccination does protect against smallpox and may be made to confer an absolute immunity.

As to the question of danger from vaccination, we have only to reply in the words of the British Royal Commission, to which the opponents of vaccination are so fond of calling attention, "A careful examination of the facts which have been brought under our notice has enabled us to arrive at the conclusion that, although some of the dangers said to attend vaccination are undoubtedly real and not inconsiderable in gross amount, yet when considered in relation to the extent of vaccination work done, they are insignificant."

All information gathered from the thousands of vaccinations performed in Hamilton during the past winter showed the entire number to be wanting in serious after-effects and fatal to the contention of the anti-vac. that the practice is productive of harmful or even untoward results.

As intended at the beginning, this paper has been merely a resume of a mild and comparatively small outbreak. It would be trespassing on your time and patience to present extracts from the startling testimony of what vaccination has accomplished as given in the standard works on the subject. "The very success of vaccination has made us forget its achievements. I have the greatest repugnance to entering on newspaper controversy by way of justifying any action taken by the Health Department during an epidemic of smallpox. The health officer who stoops to do this wastes valuable time and weakens his position in the eyes of the citizens. It would be unfortunate, however, if by a bovine stolidity and indifference or a dignified silence, we allowed the laity to become possessed of the idea that there is even a vestige of truth in the mass of junk printed and circulated against vaccination by its detractors. On the contrary, I maintain it to be the duty of Boards of Health, local and provincial, and of medical men who, in the words of Dr. McVeil, "know the value of vaccination, who understand the danger against which it protects and who are satisfied of the all but complete harmlessness of the operation to teach their

ignorant and misinformed neighbors what is in fact the truth about vaccination—the truth as demonstrated to Parliament, the truth as learned by ever-growing ex-

perience of men who give their lives to learning it, the truth about a duty which cannot be neglected, except at the price of indefinite suffering and loss of life."

THE SCOPE OF SANITARY WORK IN THE HOME*

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The sanitarian is struck with the great activity of social workers in all that relates to the home and its inmates; the work is mainly voluntary, and its importance is urged largely upon moral and social grounds. From the fact of such universal activity in this field by sociologists, I have been led to enquire how much of this is due to failure on the part of sanitarians to carry on preventive work in the home? It is quite true that in the case of diseases which are communicable, we have done much, and the efforts put forth against the spread of tuberculosis have evidenced the fact that for a long period of time the home itself was almost entirely neglected, and that greater progress has been made in the matter of sanitation of the barn and live stock than of the home and its inmates. Of course, it will be argued, the one is a financial proposition involving dollars and cents to the farmers; the other is simply a social question, and not at all to be considered by the state. The politician recognizes the value of cattle, and is willing to protect them even by strict legislative enactment, but man—not to mention women and children—is only of interest from the standpoint of his being a political shuttlecock, and his rights must not be interfered with.

It is perhaps a fault of sanitarians that they have not been aggressive enough. I believe we have not gone down to the people and striven by every means in our power to raise them by educational methods to the higher health standard which we conceive to be essential for our physical welfare.

If the sanitarian wishes to succeed he must also be a utilitarian, and must con-

vince the people that to be truly happy they must be healthy—and, if not healthy they cannot possibly expect to be happy.

As health officers we have been, and still are, wrestling with what may be looked upon as the grosser elements that go to make up the science of preventive medicine. The average citizen of Canada to-day associates our official duties with the care of smallpox, the placarding of a house for scarlet fever, or the abatement of a nuisance in his neighbor's back yard. As a ratepayer, he believes this is what he is paying for. I have frequently known it to be the magnificent "salary" (?) of "twenty-five dollars a year"—with the majority of ratepayers it is a business proposition—he considers the M. O. H. of less importance than the village constable, and, therefore, the professional services are gauged by the lesser standard.

Just drop into the office of a whole-time M. O. H.—listen to the 'phone calls, or rather his replies thereto—and you will soon be convinced that much of even this official's time is taken up with just such matters, notwithstanding the fact that he has a competent officer at the head of both of these branches of his department.

Turning to the public press, we find indications, even, there that the higher branches of public health work in this province should be taken out of the hands of sanitarians who have a medical training and handed over to sanitary engineers. This is a grievous error, which can only be accounted for by reason of the limited knowledge of these editors of what are the fundamental principles of hygiene, and what are the duties of a sanitarian, and how best the office of

M. O. H. can be filled. There is a limitation to be placed upon the efficiency of a sanitary engineer, but the field of the trained hygienist is illimitable when we view the whole range of the science. Do not mistake me, I place a high value upon the work that can be accomplished for the health of our people by the sanitary engineer, but he must co-ordinate his work and co-operate with—be directed by, if you want the best results—the trained sanitarian.

In short, sanitary engineering is but a part, and a small part, of the science in which we are engaged. It would be more sane for these papers to agitate that the skilled town planner and housing expert should have charge of the work as to make the suggestion just referred to—for in these branches we find problems more difficult, because more intricate and varied, all having an important bearing on health, the health of the child, the mother and the father.

It is to the lasting credit of the Rt. Hon. John Burns, President of the Local Government Board of Great Britain, that, in dealing with the housing question in 1909, he made the M. O. H. the one municipal officer upon whom the work pivoted in that country. Why did he do so? Because he realized that the health of a nation was involved in the question, and greater and better achievements were possible under a qualified health officer than in any other way.

Coming home to our own fair province, let us note for a moment the activities at work, all having for their common object the betterment of the environments of our population, both rural and urban.

These may be classified as (a) voluntary, and (b) municipal. The former are being carried on with more or less activity by a small army of voluntary social workers. In some instances they are in part supported by municipal aid, which is stimulated often by a provincial grant. Thus far the necessity for the work and the good accomplished is recommended by the bodies corporate. In considering the aid given, it will be found that progress has been made by these bodies paying for a whole-time officer, who directs and in a manner controls the activities of the associations of social workers. The character of most of this work falls directly

under the pervue of what is known as sanitary science or hygiene, but up to the present this fact has not been fully realized, or, if it has, it has been lost sight of because of its being hailed as work for the improvement of the morals of the people. Advance the same or better measures on the ground that the disease will be prevented, that a higher standard of health and longer life will be assured, that physically young Canada will be benefited, and then your difficulties as health workers begin. The problems are bereft of their sentimental colorings, and no matter if the public in the aggregate pay more and achieve less the work will proceed on the present basis.

In regard to the second class, the municipal, it is little to be wondered that slow progress has been made, for, as a rule, the average municipal councillor is quite willing to vote a small sum to assist the social workers in carrying on work, which in the fondness of their heart they know will benefit and uplift a particular class of the community in whom are interested. But ask those same councillors to take over the work and do it upon up-to-date lines and at the public charge, then it is a different question altogether.

Take just one concrete example which relates to health work, which in the highest sense is preventive, viz., that relating to child hygiene. In Canadian cities health authorities are too often satisfied with a partnership as between the municipality and the social workers. But what is the method adopted in New York City? In August of 1908 the Department of Health organized the division of Child Hygiene. Its force at the present time numbers 154 physicians, 265 trained nurses, 55 nurses' assistants, 30 clerks and typists, and 23 helpers, all employed throughout the year, while this staff is augmented during the months from May 1st to October 31 by 56 trained nurses and 55 nurses' assistants.

The object of this division is to supervise and control the health of children.

Its functions include:

- (1) The supervision and control of medicines;
- (2) The instruction of mothers in the care of babies by

- (a) District visiting,
- (b) Infants' milk stations,
- (c) Mothers' conferences,
- (d) Little mothers' leagues;
- (3) The supervision of foundling babies boarded in private homes;
- (4) The sanitary supervision and control of day nurseries and institutions for dependent children;
- (5) The medical inspection and examination of school children;
- (6) Vaccination of school children;
- (7) The issuing of employment certificates to children of legal age.

Here we have outlined a comprehensive scheme of one division of a city health department—here, the control, direction and elaboration of much that appertains to the child itself is in the hands of the medical officer of health. It does not altogether eliminate the social worker, but who will say that the scheme is not much better than in the case where charitable organizations are alone engaged. Under such a scheme as outlined there can be no duplication, and efficiency is written in bold characters all over it—efficiency which spells the best results at the minimum cost.

Let us turn now to the province in which our work is carried on. It is now possible, under the provisions of the Public Health Act, 1912, for health authorities to extend their work into the cubical contents of any building, be it a shack or a palatial tenement. Indeed, we may go further, and say that it is part of our duty as health officers to do so. The Provincial Board of Health and the Government of Ontario are to be congratulated upon this great forward movement, which must prove in the near future, if "activity" is the slogan of every local board of health in the province, of such untold benefit that we will all be surprised at the uplift which will take place in health, happiness, morals and physical improvement of the people.

It is quite true that there is no Act in force specifically dealing with the housing question, but sufficient will be found in the Public Health Act to bring about results in improved home sanitation if the powers therein contained are but further elaborated by the Provincial Board in the way of general regulations, which

will accomplish more than an imperfect Housing Act.

For instance, the Provincial Board of Health has the power to make regulations for:

(Sec. 8)—(a) The prevention or mitigation of disease;

(c) The removal of nuisances and unsanitary conditions;

(h) The inspection of premises and the directing of the cleansing, etc., of the same;

(i) The entering and inspection of any premises used for human habitation where conditions exist which render the inhabitants liable to disease, and, further, "for the directing the alteration or destruction of any such buildings," if unfit for habitation;

(j) For preventing overcrowding;

(p) A general power whereby regulations may be made on "any other matter, which, in the opinion of the board, the general health of the inhabitants of the province or of any locality may require."

These powers are all the stronger in view of the fact that the definition of a nuisance is stated definitely in the Act in Secs. 73 and 74, to mean:

"Any condition existing in any locality which is or may become injurious or dangerous to health or prevent or hinder in any manner the suppression of disease, shall be deemed a nuisance within the meaning of the Act. (New)"; or "(a) Any premises or part thereof so constructed or in such a state as to be injurious or dangerous to health."

It must also be noted that it is the duty of the Provincial Board, under Secs. 6 and 8, to:

"(a) Make investigations and enquiries respecting the causes of disease and mortality in Ontario, or in any part thereof;

"(d) Determine whether the existing condition of any premises, or of a street, or public place, or the method of manufacture or business process, or the disposal of sewage, trade, or other waste, garbage, or excrementitious matter is a nuisance or injurious to health:

"(g) Enter into and go upon any premises in the exercise of any power or the performance of any duty under this Act, and make such orders and give such di-

rections with regard to the structural alteration of the premises, or with respect to any other matter as the board may deem advisable in the interests of the public health, R.S.O., 1897, C. 248, ss. 9, part 10. Amended."

And, further, the same board has the power (under Sec. 7) to investigate under oath as to unsanitary conditions and nuisances, and order their removal or abatement.

Surely, with these powers, together with the statutory definition of a nuisance, there is before the health authorities of this province a grand opportunity to make tremendous strides in the realm of hygiene of the home, which if properly developed and worked out, must result in municipal authorities doing in a systematic manner and with trained officers work which up to the present has been carried on here and there by philanthropist, and social workers and others.

As most of the detail work in home sanitation must necessarily fall upon the staff of the M. O. H., it may be pointed out, very briefly, that the Act clearly lays it down (Sec. 75) as part of that officer's duties that he shall have a regular inspection to prevent nuisances or abate any existing nuisance. Having in view that one definition of a nuisance is "any premises or part thereof so constructed or in such a state as to be injurious or dangerous to health." What opportunities has not the M. O. H. as a result of the statutory powers for the examinations of premises under sections 76 to 80 inclusive, and sections 86 and 87, which relate particularly to lodging houses, tenements and laundries?

The latter sections make it possible for the health officer to publicly condemn in a most forcible manner by placard, any habitation either unfit for human beings or dangerous to health. This is a veto power over usury and greed, which should be used after careful and, if necessary, personal inspection by the M. O. H. himself.

In special cases where considerations of difficulty are involved, the M. O. H. has recourse to the strong arm of the Provincial Board—Sec. 81—and in cases where the M. O. H. is not backed up by the local board, he is assured by Sec. 34 that, if the case is a good one, the Provincial Board may support him, and so carry out the good work he requires.

It must be noted that much elasticity exists in respect to the details of sanitary inspection under the Act and the regulations as contained in Schedule B, by reason of Sec. 114, ss. 2. Special circumstances can be dealt with by municipal by-laws, which, however, must be approved of by the Provincial Board; and so difficulties existing in our large centers, and perhaps not to be found in towns or villages, can be met, and dealt with, by the local health authorities without being dependent, as we have been in the past, upon local organizations to undo what the body corporate should have prevented. Many of the evils which arise from insanitary home conditions, many of the diseases incident to child life due to unhealthy environment and improper feeding can and should be dealt with along preventive lines, and the work should be directed and controlled by the health authorities, whether they be municipal, provincial or federal.

I do the very best I know how—the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference.

—Abraham Lincoln.

HOW CAN CROSS-INFECTION BE PREVENTED IN A HOSPITAL FOR COMMUNICABLE DISEASE

By M. B. WHYTE, B.A., M.B.

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A paper read before the Ontario Health Officers' Association, Parliament Buildings, Toronto.

The subject for discussion at this time is one which has received attention from the responsible heads of hospitals for communicable diseases ever since the municipally owned and controlled hospital has been a part of the system of isolation of infectious diseases.

It was at one time hoped that the segregation of such diseases would materially lessen the spread of disease. Whether successful or otherwise, with this segregation, a new responsibility has devolved upon the municipality in the prevention of further infection amongst those it has taken upon itself to care for.

Just how much of the cross-infection which does occur may be correctly attributed to the hospital, it is difficult to say, but certain it is that even under the most ideal conditions, cross-infection to a limited degree is inevitable. It is the common experience of all children's hospitals that wherever you have a number of children gathered together, there you will have communicable disease; and this fact, to be fair, is equally true for hospitals which have the greater responsibility of caring for those cases against which other hospitals close their doors. Therefore, there is a certain percentage of infection which is common to all hospitals where children are congregated. Deduct this common percentage from the statistics of a well-planned and carefully managed hospital for communicable disease, and I venture to say that if the facts were known, the balance, if any, to the credit of the municipal hospital would be very, very small.

The causes of cross-infection are many and varied. From what little experience I have had in Toronto, I should say that the great causes are: overcrowding, lack of accommodation for observation, of

doubtful and of suspected mixed cases, and the lack of proper and convenient facilities for the frequent cleansing of the hands by attendants. This, of course, is secondary to or dependent upon the fact that mixed cases and carriers of disease are quite common. It is common knowledge that two, and even three different diseases may co-exist in one patient. One disease may be perfectly obvious, the other may be in the incubation stage, or may be so far advanced that it is now unrecognizable. For instance, of all cases of scarlet fever admitted to the Toronto Isolation Hospital during 1912, 14 per cent.—a rather unusually large percentage—were carriers of diphtheria bacilli on admission. Since only from 1 to 2 per cent. of well persons harbor diphtheria bacilli this indicates, I think, the great susceptibility of the scarlet fever patient for diphtheria, and furnishes a very reasonable explanation of the frequency of the occurrence of post-scarlatinal diphtheria. The converse is not proven bacteriologically, but very possible, namely, that a certain percentage of diphtheria patients are also carriers of scarlet fever in the form of mild or unrecognizable cases. One can appreciate the possibilities of cross infection if the 14 per cent. of scarlet fever patients, all harboring diphtheria bacilli, were allowed to mingle freely with the other patients not so infected. A difficulty quite parallel, and for which we have not as simple a remedy, still obtains in the possibility of a percentage of diphtheria patients being also carriers of scarlet fever, and therefore dangerous to other diphtheria patients.

The carrying of infection on the person, especially the hands of an attendant, is a cause which cannot be overlooked, and as

infection by contact, direct or indirect, is now recognized as the main medium of infection, carelessness in this regard may become a very real danger.

I have often wondered if our innocent-looking little clinical thermometer may not have been, in many cases, the vehicle of transmission of disease from one patient to another, more especially where communicable diseases are concerned. It is impossible to thoroughly sterilize a thermometer; in fact, it is the only article coming in contact with the patient's mouth which may not be boiled. I have felt that it would be a step in advance were each patient provided with his or her own thermometer while in the hospital.

Having in mind the main causes of cross-infection, the preventive measure should be such as will reasonably meet these causes. In the first place, to tax the capacity of a hospital to the utmost is to invite cross-infection. This is a real danger, which should be emphasized. There is always a percentage of cases which, on admission, give a history of exposure to another disease, or which are at the time suspicious of another disease, or which are definitely mixed cases. With a number of empty beds at our disposal for observation purposes and a sufficient nursing staff that is not overworked, these cases can be safely isolated until the diagnosis is cleared up, or kept in isolation during their entire stay in the hospital. A careful history, taken on admission, and a careful physical examination, with special reference to the condition of the throat and tongue, the presence of Koplik's spots, and presence of skin rashes and desquamation, with ample room for isolation, is the most potent factor in the prevention of the spread of an infection which cannot be diagnosed bacteriologically, but clinically.

To isolate every case of diphtheria for one week as a suspect scarlet fever patient is no doubt the ideal procedure. It entails, however, a great amount of apparently unnecessary labor and expense. It has been my experience that isolation of all cases pronounced suspicious, after careful examination in the admitting room, is for practical purposes quite sufficient. The typical appearance of a fourth or fifth-day scarlatinal tongue and the punctate rash

or "enanthem" on the palate of an early case have proved invaluable clinical aids. In Toronto, during 1912, one-half of all cases of scarlet fever occurring amongst diphtheria patients developed during the first week in the hospital, and were no doubt incubating the disease on admission. Most of the remaining cases could be traced to these as a source. This would seem to argue in favor of the rigid isolation of all cases of diphtheria for one week as suspects. But there has been a great reduction in this type of cross-infection dating from the opening of the new wing, providing an additional 120 beds, two separate nurses' homes and better and more convenient facilities for gowning and cleansing the hands. During the past eleven months in which we have had the advantage of these needed improvements, the occurrence of scarlet fever amongst diphtheria patients has become a rare thing indeed, and this without the rigid isolation of every case of diphtheria, but only those which were in any way suspicious. Only three cases have occurred in 568 diphtheria patients admitted, about one-seventh of the number occurring during the previous year. It is doubtful if much better results than this would be obtained by the use of cubicles.

The two separate nurses' homes for diphtheria and scarlet fever nurses, and separate quarters for maids, are no doubt most important factors, where they are possible. Where not possible, the only safe procedure is to provide facilities for nurses to change their uniforms and to thoroughly cleanse their hands before going on or off duty.

The routine swabbing of throats of all scarlet fever patients on admission, the isolation of those found with diphtheria bacilli, and the administration of an immunizing dose of anti-toxin, say, 2,000 units, to all patients, practically rules out the possibility of post-scarlatinal diphtheria. In Toronto, during the past two and a half years, this procedure has been adopted. With an admission of 1,425 cases of scarlet fever, only six patients contracted a very mild, almost membraneless type of diphtheria after admission. For one year, 1912, there were no cases at all. Three developed at one time, and were traced to a "carrier," who was considered free of the germs after two suc-

cessive negative cultures had been obtained, but on a third culture being taken, showed the presence of the Klebs Loeffler bacillus.

Where measles and chicken pox—two diseases with fairly definite incubation periods—have been known to break out in a ward, a most ingenious “ruse” is adopted by the authorities in the south department of the Boston City Hospital. The infecting case, of course, is immediately removed, and toward the end of the incubation period, those cases remaining are divided into units of two or three patients and isolated in separate small wards. Should a second case then develop, it will have exposed only those two patients with whom it was isolated, and in this way the spread of the disease is effectually curtailed.

The fundamental principle underlying the prevention of cross-infection is medical asepsis, first and last. It had its be-

ginning when Dr. Grancher of Paris discarded the theory of air-borne infection, and has since developed and been put to the test in hospitals in France, England and the United States. It has resulted in more perfect isolation by relieving our minds of the fear of infection through sources which do not exist, and allowing us to concentrate our thought and efforts upon the real cause, direct or indirect contact.

Great credit is due to those who had the courage to disregard the time-honored theory of aereal infection, and to prove the value of aseptic nursing by actual experiment. The isolation of various types of infectious disease in one ward is not an advisable procedure from a practical standpoint, tending to throw unnecessary responsibility upon the nurse, but it has served to illustrate that contact is the true vehicle of transmission of infection, and that perfect medical asepsis is the only certain barrier.

A TRAGEDY.

(On the Death of a Graduate in Medicine.)

Another Aesculapian
In modern guise, has lost his way
Amid transgressors' revelries,
Where youths consort, where maidens
 stray,
Where all was gilded sin, and rosy red
The cup of Pleasure, quaffed in Pleasure's
 bed.

But Pleasure vanished, stealthily,
And by his side there crouched instead,
A withered, hideous, Coquetry
With arms outstretched, with talons
 dread—
Ah, then, the ugly truth pressed home its
 pain.
The spectre laughed and mocked and
 laughed again.

The spectre triumphed mightily.
'Twas Death who clutched him at the last,
Alone, a beggar at the gate.
Where habits of a life had cast.
That gate—dear Lord, when every hope
 is barred,
Too late, too late, to call on Thee to guard.

SANITARY WORK AMONG THE FOREIGN POPULATION

By **LT.-COL. C. N. LAURIE, M.D., M.O.H., PORT ARTHUR, ONT.**

A paper read before the Ontario Health Officers' Association, Parliament Buildings, Toronto.

In dealing with the question of sanitary work among the foreign population, we touch one of the most important subjects confronting the medical officer of health, especially in the larger cities of our country. There is no question which is of greater importance than that relating to the public health. All our social and business life is influenced by it, and no people suffering from sickness and disease can possibly be bright, happy, vigorous or contented.

And as the sins of the fathers discord upon the children, "likewise the sins, carelessness, indifference and ignorance of our neighbors are sure to have an influence on our lives, no matter how careful we may be ourselves.

To-day we have pouring into this great country of ours thousands of the poor, the ignorant, the superstitious, the down-trodden, from all parts of the old world. The duty falls upon the people of Canada to help these people to become good citizens, to teach them that their prosperity and happiness depends to a large extent upon the care they take of their homes and surroundings. Unfortunately, they are mostly ignorant and careless of the first principles of sanitary protection, and they look upon the health officials as their natural enemies, whose aim and desire is to interfere and make life unpleasant for them.

These people, on account of their poverty, generally live in the poorest and most wretched dwellings; they have to settle on the cheapest and most undesirable lands, very often beyond the reach of sewers or city water supply; consequently they are forced to use well water, which often becomes contaminated. Indeed, I have found them dipping water out of the ditches. When I spoke to them about it they claimed it was for washing purpose. Perhaps it was, but I cannot say. They also have the open outdoor

closets, generally dirty and exposed to flies. A ripe source of sickness, especially during the warm weather.

Their homes are crowded, as most of them try to keep down expenses by taking in boarders or renting rooms. I have found rooms with beds so crowded together that the occupants had to climb over the foot of the beds. I have often found men lying in bed with the clothes on which they had worn during the day time at their work. As may be expected everything was far from clean or sanitary.

Very few of the foreigners believe in fresh air, they keep their windows closed most of the time, and their rooms are close and foul—some times so bad that I had to turn back until the window was opened. Tuberculosis is quite prevalent, especially among the Finlanders. This dread disease, which was almost unknown in the Thunder Bay district a few years ago, is now becoming quite common. Typhoid fever is also common amongst them. A great many of the men work together in construction and lumber camps in the northern district. They drink water from any place they can get it when at work, as they often work long distances from the camps, where perhaps the water supply is closely watched and may be good. They are crowded together in their bunk houses, and from my own experience extending over eleven years, I can state that the dining hall is generally full of flies.

However, whatever the cause, a great many of these men suffer from fever, and carry it to their homes. As on the first outbreak of sickness the patient is nearly always sent to his home in the city or to a city hospital, even though there may be camp hospitals, the men look upon them with disfavor and hurry away home.

Arriving there, they often spread the disease among the other members of the family as they are ignorant of all sanitary

precaution and look upon it as unnecessary trouble if instructed by their physician. From these homes come a large proportion of the servant girls, who may contract and pass the fever along into the homes where they work.

Different times we have traced typhoid in this manner. Last summer some boys found some bottles thrown out on the ground from a sick room, amused themselves by throwing the bottles into a well, five families using water from the well contracted fever.

We also find a great deal of sickness among the children of these people, especially during the summer months, chiefly caused from improper food. It seems an almost impossible task to teach them anything better when they do not understand English, when you cannot stand and watch them all the time as they prepare the food. And when they have a sudden distrust of all official advice. Last summer I was called to see a Finland-er's child. The house was fairly clean and not overcrowded. On enquiring, I found that the mother was feeding the child on cow's milk. As I passed through the dining room I noticed the pitcher of milk standing on a table with a number of flies swimming in it. On my drawing the woman's attention, she simply took a spoon, fished the flies out and threw them on the floor. I explained to her the danger from the flies carrying disease and causing sickness something she had never thought of before, and she seemed quite worried to think she had been feeding her child from that milk. However, gentlemen, doubtless, you have often come across similar cases in your own practices and in spite of all the medical officer of health can do you will come across many more such cases until we can get the people educated to the cause and prevention of disease.

Among this class of people, as well as many others, the ordinary practice is to throw all garbage, dirty water, empty tins and sweepings out the back door on the ground, to become the breeding places for millions of flies. We have by-laws in our city forbidding this and we have all garbage placed in cans removed by the city teams, but numbers of the people continue to throw the garbage on the ground rather than buy a can. I have had some

before the magistrate and fined, but even this does not seem to have had the desired effect. I have tried to reach these people by giving addresses on subjects relating to sanitary matters, and, while this seems to do good where they understand English, it is of course a failure where the people speak Austrian, Hungarian, Finn, Italian or the numerous other languages which I have not yet acquired. I have had extracts from the Public Health Regulation printed in the daily papers, both in English and Finn. I think these have done some good, but again there are numbers we have not reached. I pay regular visits to the schools and have given a number of addresses to the children. These, I believe, will bring forth good results, and to my mind is the best way to remove the difficulties under which we labor, by educating the coming generation, who will help spread this knowledge in their homes. And I may say that the children of the foreigners seem remarkably bright and quick in acquiring knowledge and picking up our language. In a city like Port Arthur, which has jumped in population from three to eighteen thousand people in a few short years, with nearly one quarter of its population foreigners unable to speak English, you can easily understand what an important and difficult task is before the health officials. A few years ago we had a great many cases of diphtheria, but since the City Council provided anti-toxin free of charge to the physicians for the use of all citizens, about five years ago, the number of cases have diminished in a remarkable degree. On visiting the schools this past winter and finding a large number of children suffering from eye, nose and throat troubles requiring treatment by specialists, children whose parents are unable to pay for the treatment, the Council, on receiving my report, appointed a committee last week to arrange with me to have those children treated at the public expense. We shall take this matter up on my return home, and I trust it may be a step leading on to others which may prove a lasting benefit for the poor unfortunates who are so badly handicapped at the start of life. In regard to the overcrowding, caused largely by the high price of land in the Twin Cities at the head of the lakes, some

of our city aldermen have a scheme of subdividing 68 acres owned by the city, and through which we are extending our street railway, into small lots, putting up cottages on them and leasing them at a very small rent for a term of years to working men on certain conditions, such as keeping them clean, not overcrowding, etc. As I say, this is only being considered at present, but it finds favor with a great many, and I believe is likely to be carried out.

The city is starting to build the first section of a trunk sewer this year. This section will drain the large swamp district lying between Port Arthur and Fort William, which is inhabited only by foreigners, and is the unsanitary district in our city. The sewer will run into large tanks, where all sewage will be disinfected before being pumped into the river to disappear in the lake.

This sewer is to be extended from the south end of the city until it reaches the extreme northern limit, to catch all the sewage of the city. It is an immense undertaking and is expected to take about three years to complete.

In regard to the question of milk supply, which is a very important one, we have not yet solved it, although it has often been discussed in our Board of Health meetings. The plan we favor, if we can only carry it out, is to have a central milk depot, where all milk coming into the city can be watched, tested, bottled and delivered to the public. A large number of the foreign population keep cows, and supply their neighbors with milk, which I find is generally good, better as a rule than the milk supplied by the dealers.

These gentlemen, are a few of the questions we are trying to deal with and which we hope yet to solve.

ADVICE.

Never hurry, never worry,
Never fret, and never stew,
For there's lot of time to-morrow
For the work you have to do.
Take it easy, that's what we say,
Never rush it, don't you know,
It's an awfully, beastly bounder
Who will hurry. Take it slow.

SUPPRESSION PREFERABLE TO SEGREGATION

By J. L. BEAVERS, CHIEF OF POLICE, ATLANTA, GA.

One of the most vital questions that is interesting our cities to-day is the social evil.

Vice commissions and investigating committees are being appointed by all of our large cities, and many reports have been made by them. Some recommended one thing and some another, but very few of them have recommended suppression.

Why is it that so many favor some other remedy? Is it because they are in favor of continuing the old way of segregation as the best solution, or is it because they are influenced by politicians and the money interests that control them? I dare say that both have something to do with it in most instances.

How can any decent man say he is in favor of public indecency?

Why should we maintain such houses before our children's eyes? for we do maintain them, in a way, by putting our approval on them. If we say to our boys that such houses are necessary, then we say to our neighbor's daughter that they are necessary; and would we say a thing to our neighbor's daughter that we would not allow him to say to our daughters? It reminds me of the old saying that a man will protect a woman against every man but himself.

Or can we segregate such places near our neighbor, be he ever so humble, when we would not have them near our own door? for you cannot have such places in a city without putting them near some decent home or where they are exposed to the public gaze. Or can you have one standard of morals for your boys and another for your girls? If you set a low standard for your boys, you set a low standard for your neighbor's girl.

Why should we not do unto others as we would have them do unto us? And why do we, as sworn officers of the law, set the law aside? The man has not yet been born who would dare to propose an ordinance of a city or a state law legal-

izing white slavery and the betrayal of girls for sale.

None of us are wholly free from guilt who permit this open shame. There are state laws and city ordinances against such in every state in the Union. If the laws are wrong, why not change them, and if they are right, why not enforce them? What respect have we for the man who lives on the rents of such places? You say you have none, but still you allow him to carry on his nefarious business.

I do not say police officials can do away with this evil entirely, but I do say that it can be reduced to a minimum, and they can stop recognizing it as public officers, and thereby put their stamp of disapproval on it.

Physicians declare the system deadly and unnecessary. Scientists say that from it come bacteria, blinding and blighting of babies, maiming and killing of wives. Sociologists pronounce it the greatest source of social impurity. The law forbids it as a menace to morals and health.

I dare say that 99 officers out of 100 would enforce the laws against the social evil if they knew that their jobs depended upon it. They would not stop to think whether it is necessary or not. The trouble is higher up.

Defenders of segregation have knowledge of the world. Not without sadness they say the closing of the houses will not eliminate the social evil. Some of them almost weep in referring to the antiquity of the evil, but they forget that theft was committed a long time ago, and that murder also is of ancient origin. Cain slew his brother Abel before the brothel had been devised. Imagination staggers at the thought of the heights that might have been attained by the thief and the murderer in their peculiar lines had they been favored with a segregated district in which to ply their lawless practices. Theft and murder are older, but the de-

An address before the International Association of Chiefs of Police at Washington, D.C., June, 1913.—With comment by "The American City."

fenders of segregation would never think for a moment of advocating their protection.

Under the segregation plan the open house of vice means police protection in flagrant violation of the law. In my own city, the city of Atlanta, we had a segregated district until eight months ago. It had existed ever since Atlanta had been a city. There had always been a sentiment that such a district was necessary. Where such a sentiment originates is a question that puzzles my mind. No doubt some men are honest in their opinion that segregation is the only solution, but I am of the opinion that this sentiment is strongest with the men who receive money from such places, and men who care nothing about the morals of the community.

We ordered all the houses known to us to close their doors. The good people of our city offered the women assistance in the way of homes and money until they could get employment so they could make an honest living. About 25 per cent. of them accepted this offer, but the larger part left the city and went to other cities where they could continue the same life.

I do not say we have none of this class of people now, nor do I ever expect to see a time when they will all be eliminated from our city; but I do say there is not one recognized house in Atlanta. We have no more complaints in residence sections from assignation houses than when we had the segregated district.

The closing of the district has had the effect of decreasing crime and disorder fully one-third, which fact alone shows the wisdom of this action. Then, too, we have less trouble with the cheap hotels than before, for the reason that the proprietors know such places are being closely watched and that they are under suspicion. Before the closing of the district we had much trouble with these cheap hotels, as they were frequented by many young girls.

A woman who kept one of the largest houses in the city, after the houses were closed gave \$2,500 toward establishing a home for fallen women, and the good people of the city raised the balance. The home is now in operation and open to all those who desire to reform.

I can truthfully say that the movement has been a success in our city, and that

the public, in my opinion, would not stand for a return to the old condition. Sooner or later men throughout the nation will throw off the yoke of cruel ignorance. They are doing this everywhere. Fathers and mothers are realizing that a boy is better unborn than untaught, and throughout the world men are putting an end to the slavery of women. Crime against them is no longer condoned in the name of expediency and hidden beneath hypocritical silence.

In the South, Atlanta has taken the lead. Without the advice or interference of outsiders we have put a stop to protected vice. Instead of punishment and persecution, her people have offered homes and help to the pitiful victims of men's greed.

COMMENT.

It is a pleasure to give space in this issue to the inspiring address delivered by Police James L. Beavers, of Atlanta, at the annual convention last month of the International Association of Chiefs of Police. Chief Beavers' paper is a strong argument against a protected "red light" district for any municipality, and an encouraging report of the results recently accomplished in Georgia's largest city.

The movement which led up to the elimination of segregated vice in Atlanta was a noteworthy one. It is told in the Continent for April 3, 1913, in an article by William T. Ellis, entitled, "Advertising a City Free from its Vice"; and it is a story which deserves the study of every enemy of the legalizing of hell in our cities. To quote Mr. Ellis:

"Atlanta had experienced a successful Men and Religion campaign, and consequently sent a strong delegation to the Men and Religion Congress in New York City last spring. There these representative men were caught up into a mount of vision of new service by men for the Kingdom. The social service message and the publicity message especially took hold of them, as they did of most of the delegates. These were new notes in Christian work. They were real messages to be wrought out into service. With opened eyes and resolute hearts the delegates returned to Atlanta. The unforgettable ad-

MEN AND RELIGION BULLETIN No. 14

"The Houses in Our Midst"

COUNCIL AND CRIME

"It might take a long time for the doctors to rid the city of an epidemic.

"But it ought not to take the city long to rid itself of a doctor found promoting the epidemic."

These words of Lyman Abbott's fit the situation in Atlanta.

Our public officials are the "doctors."

The social evil is the sickness.

And the "doctors" are vigorously promoting it.

Night after night in more than a score of houses with the knowledge of the chief of police and the entire force women are being bought and sold.

Their owners, without fear of interference, in places authorized by those whose duty it is to suppress them, are carrying on their unspeakable traffic with its ceaseless demand for the ruin of girls.

Vice is one thing.

Protected vice is another.

Public officials are paid to prevent crime.

When they protect it and assign a place to lawbreakers for its commission, as they are doing in our city, Council should consider its power to impeach and its duty to the public.

Shall the city bear the responsibility for the betrayal of girls necessary to supply the houses?

Shall the city connive at the spreading of malignant germs?

Shall the city endure the willful disregard of law by those paid to enforce it in order that men may grow rich by selling women?

Atlanta should and will close the Houses in our Midst.

THE EXECUTIVE COMMITTEE **Of the Men and Religion Forward Movement**

dress of Jane Addams echoed in their memories above all else.

"Straightway these men began to look at Atlanta's local conditions with new eyes. They discovered what may be found in almost every other large city in the country—a "red light" district wherein the social evil was protected, or at least winked at, by city officials. The immensity of the task—if these men had the hardihood to accept it as a task—of healing this sore on the body politic was overwhelming. Even a preliminary investigation revealed how the tentacles of the underworld reached out in many directions to centers of influence and power. Nevertheless, these Southern men had not made their vows in vain.

"Without taking the world into their confidence or boasting of what they meant to do, or calling in the counsel of any experts, these men blended the publicity message and the social service message into one agency and began to advertise in all the city papers the facts of the social evil in Atlanta. They contracted for a large amount of advertising space in the daily papers to be paid for at regular rates. They entitled their advertisements 'The House in Our Midst,' and called them 'Men and Religion Bulletins.' They were numbered in consecutive order. No. 1, of course, implied that No. 2 was to follow, and No. 10 called up in the minds of the friends of vice the dread possibility of a No. 20 or a No. 30. In truth, the bulletins have now numbered fifty, and there have been frequent extras, sometimes a whole page in extent. Ordinarily the advertisements are two, three and four columns wide, extending the full length of a page.

"Of course the advertisements created a sensation. They were conspicuous, and yet they did not rely for their effect upon display type. The method plainly was to be the use of the artillery of facts and principles. Bald, hideous facts about the social evil in Atlanta were cited without qualification or circumlocution. Then to these conditions was applied the clear word of Scripture.

"This experiment revealed in striking fashion a new instrument of democracy—the paid statement, through advertising columns—of truth that should reach the people. The Men and Religion Com-

mittee might have conferred until its members were deaf and doddering with public officials and politicians, and not have accomplished one-half that was wrought by direct appeal to the consciences of the people. There was no way of answering, avoiding or diverting the tremendous truths told week by week in these display advertisements, which naturally came to be the first part of the paper to which thousands of readers turned every day."

The outcome is told in Chief Beavers' paper. The attitude of the Chief of Police himself, the important part which he took in the campaign, and a recognition of the fact that there is much work still to be done, are shown in the following paragraphs from a letter to the American City from Marion M. Jackson, president of the Young Men's Christian Association of Atlanta and author of the newspaper advertisements:

"The situation in Atlanta prior to the closing of the houses was not due to corruption in our police force, but to acquiescence on the part of the public as well as the police force in a condition which should not have been tolerated. The honesty of our chief of police, James L. Beavers, has been a great human factor in our success.

"Prostitution cannot be driven from a city in a day. Burglary and murder, which have never enjoyed the facilities of the segregated district, still exist in all of our American cities. So the social evil still exists in Atlanta, but not with the consent of our police force and the respectable citizens. As fast as a case comes to the attention of the police force, an end is put to the existence of the house.

"Nothing can be done in any city until the first blow is struck at the very root, viz., the recognized houses. When the alliance between the criminal and the city government is broken, then it becomes a matter of education to undo the results of centuries of mistakes.

"In other words, we regard our work in Atlanta as wholly successful as far as it has gone. If we were to leave it where it is without continuing the fight for education and for proper treatment, particularly of working women in the way of living wages and recreation, no man could tell the result."

WHAT NEW ZEALAND DOES TO PROMOTE THE HEALTH OF THE WOMEN AND CHILDREN

By MRS. MASSEY

Branch President of the New Zealand Society for the Health of Women and Children.

That "great events from little causes spring" has been exemplified in the case of the New Zealand "Society for the Health of Women and Children." About seven or eight years ago, Dr. Truby King, the head of one of the large mental hospitals in the Dominion, became interested in a baby with which no artificial food seemed to agree. In consequence, he and his wife made a study of artificial feeding, with the result that when tried upon the baby, it improved rapidly, and eventually outstripped the average child in health. The deduction drawn from this success was, that many other infants must be in need of similar treatment.

A meeting of those interested in the welfare of children was therefore held in Dunedin, and "The Society for the Health of Women and Children" was formed, its aims and objects being as follows:—

1. To disseminate accurate information on matters affecting the health of women and children, by means of lectures, demonstrations, newspaper articles, pamphlets, correspondence teaching in the home and otherwise.

2. To uphold the sacredness of the body and the duty of health; to inculcate a lofty view of the responsibility of maternity and the duty of every mother to fit herself for the perfect fulfilment of all the natural calls of motherhood, both before and after child-birth.

3. To provide and employ nurses ready at any time to give advice and instruction to mothers, in the home or elsewhere, with a view to conserving the health and strength of the rising generation and rendering both mother and offspring hardy, healthy and resistive to disease.

4. To promote legislative reform in matters pertaining to the health of women and children.

5. To co-operate with any present or future organizations which are working for any of the foregoing or cognate objects.

A further object which the society had at first was: To investigate the conditions under which waifs and strays are at present kept, especially during the first twelve months of life, and as far as possible to make provision for their proper care, where they are found to be improperly housed or treated:—

- (a) By getting them placed in suitable private houses under the care of women not dependent solely upon the fees received.

- (b) In cases where proper provision cannot be made as above indicated, to provide suitable temporary accommodation and nursing at the society's expense.

It is no longer necessary for the society to take action in this matter, as the Government and Town Councils have improved their care of waifs and strays.

At first there were great difficulties in the way of the young society, and much opposition was met with, but in a comparatively short time the public recognized the good that was being done, and the future possibilities, and now there are branches and workers from end to end of the Dominion. The New Zealand Government shows its practical approval of the movement by subsidizing the society's hospital, and by paying £50 a year towards each Plunket nurse's salary. An ample proof of the ever-growing interest of the public is the great demand for the society's trained nurses, and the steadily-increasing number of mothers and babies under their care. Its influence and teaching have spread to such an extent that requests for its 1s. book, "Care and Feeding

of Baby," are received from all parts of the world, and come from most out-of-the-way places. It is so much asked for that the fifth edition of 5,500 copies was sold out in a year, and unfortunately the book is now out of print. A revised and improved edition is being prepared, and it is hoped, will be issued in the course of the year. A sixpenny pamphlet entitled "What Baby Needs," has been published to supply the want in the meantime. This latter contains the fundamental essentials of the society's teaching, but much of the detailed information had to be left out, and nearly all the illustrations. A very valuable means of spreading the society's work has been by the weekly publication (in all cases gratuitous, I believe) of "Our Babies" column in all the leading newspapers throughout the Dominion. This was instituted five years ago, and has been carried on regularly ever since. The number of letters of enquiry received from patients and others—many in outlying districts far from doctors and nurses—testify to its value. The questions are answered through the newspapers when of sufficient general interest. That these articles are a success from the newspaper's point of view, is shown by the following answer from one of the leading papers, when a proposal was made by the society to limit their contributions to one a month, as so many nurses were now employed, and the book widely circulated:—"It would relieve your labor, which must be very trying, and our space, which is greatly pressed upon, but I would sooner see a weekly article reduced to a half column, or a quarter column even, rather than omitted any week."

The society owes a debt of gratitude to Lord and Lady Plunket, Lord Plunket being Governor during its evolutionary period. They both contributed in no small degree to the success of the pioneer work, and suggested many valuable additions and improvements. The trained visiting nurses employed by the society throughout the Dominion, are called "Plunket Nurses." Many people abbreviated the name of the society to the "Plunket Society." The Plunket perambulator also owes its name to Lady Plunket. The hood is hygienically ventilated, and has, I think, in New Zealand, quite superseded the old-fashioned close hood, in which the

baby cannot get its legitimate airing when out for the purpose. There do not appear to be any in England like the Plunket ones, but possibly some enterprising perambulator maker may introduce them before long. The society wages unceasing war against certain spine-twisting baby carriages and go-carts; also against long-tubed bottles, comforters or dummy teats (which latter, I notice, ornament (?) so many English babies' mouths). Patent foods, it is unnecessary to remark, are likewise anathema.

After the society had been in existence for some months, it was found necessary to have a hospital where babies could be treated and nurses trained. A suitable place was bought near Dunedin, and is now visited with great interest by people from all parts of the world, for it is the only one of its kind. There are two classes of nurses trained at the Karitane Hospital, those who wish to become "Plunket Nurses" and those who are going to be "Plunket Nursemaids." The former must be certificated hospital and maternity nurses, who, when qualified, are employed by the different branches as visiting nurses. The latter receive sufficient training to enable them to attend their employer's children on Plunket lines.

Travelling nurses deliver lectures in different parts of the country, and relieve branch nurses, who return to the hospital every year for a fortnight, in order to be kept up-to-date.

The hospital is not of the ordinary kind, as no baby is admitted suffering from any infectious or organic disease, only those which are puny and delicate from malnutrition, ignorance, or neglect. It is wonderful how quickly quite hopeless-looking cases respond to treatment. They are carefully and scientifically fed, and above all, are kept out of doors all day, under sheltered verandahs built for the purpose. Infant deaths are very rare in the hospital, and the few that do occur, are attributable to being brought in too late. I have only the statistics for last year, when 57 were treated, and four died, three within a week of admittance. The infant mortality rate for Dunedin, the headquarters of the society, was under 4.1 last year. Sir George Newman, who pub-

lished the infant mortality rates for the world, placed New Zealand lowest.

Two years ago the society provided accommodation at the hospital for mothers accompanying their infants. The experiment proved a great success, and those who have been there have spread the knowledge gained to other mothers, and babies with whom they have later come in contact.

At first some of the medical men did not regard the society with favor, but now the greater number of the cases come from them. One well-known member of the profession stated that the society's nurse had been such a benefit to him personally in assisting mothers to carry out his instructions, that if the society ceased to employ one in his district he would provide one at his own expense.

Breast feeding, of course, is insisted upon whenever the mother is healthy, but in cases where it is not possible, humanized milk is used. In the larger towns the principal dairy factories keep trained nurses to modify the humanized milk for individual babies, according to the requirements given by the visiting nurses. Incidentally it may be remarked that humanized milk is frequently supplied by

the factories to grown-up invalids, with most beneficial results, for it is digested when few other foods are.

The society regards itself as a patriotic and not as a purely humanitarian institution, and a means of producing a vigorous native-born population for our young Dominion. If the United States calculates that each emigrant is worth £300 to the country, then how much more must be the value of those born in the country and accustomed from infancy to the climate and mode of life obtaining there? In a young country, where, generally speaking, conditions are so much more favorable for the mass of the people than in older ones, ill-health, which is the main cause of failure in the battle of life, and the parent of crime, insanity and other evils, should become almost unknown. It is the great desire of the "Society for the Health of Women and Children," to spread broadcast throughout New Zealand the knowledge of those simple laws of Nature, which, if followed, will endow her population with the wealth of health and strength, as lavishly as Nature has already endowed their country with the wealth of beauty, climate and soil, so that she may even more richly deserve her soubriquet of "God's Own Country!"

The best thing a man can be is to be himself in spite of inconvenience; and in his little walk through life to tell the truth according to himself; to be afraid of no man but himself; to respect the laws, but not to cringe to them; to be himself in spite of the opinion of the multitude, and to acknowledge no higher Court of Appeal than that of his own conscience; for he who can look unflinchingly in the mirror of his own soul laughs when his effigy is burnt in the market place.—Sir Herbert Beerbohm Tree.



Ruins at Silver Islet—Lake Superior, near Thunder Cape

SILVER ISLET

(The most famous Silver Mine in the World.)

Just a mere speck upon the tideless sea,
Lapped by Superior's wavelts one by one,
When Nature smiled and when in liberty
The sunbeams danced upon it, while the sun
Far in the Heavens laughed in joyous glee.
But when the sullen clouds o'ershadowed Him,
And cast their scowls and frowns so dark and grim,
The little rock was hidden by the sea,
High-dashing with its angry billows wild.
Thus it had come fresh from the hand of God,
And little cared; it's lot to be His child.
A lonely isle e'er foot of man had trod.

And thus it rested, year to year, the same,
Scaree daring to lift up its rocky head
Above the wavelets; with not e'en a name
To grace its rugged form, sleeping instead
In blissful ignorance of the wondrous fate
Which should befall it as the years sped past.
Upon the shore the rugged mountains cast
Their watchful eyes upon it as it sate.
A deathly silence overspread the scene,
Nor man nor beast was there to utter sound,
No step upon its roughened sides had been,
No holier, healthier place could e'er be found.

Then a day dawned, a strangely wondrous day,
 When men with cruel bars and implements
 Opened its face to let the sunlight ray
 Reveal a wealth in magnitude, immense.
 'Twas thus the tiny islet found its name,
 And miners came from far-off Cornish soil
 To wrest therefrom, with unremitting toil,
 Such treasure store as set the world aflame.
 They fashioned cribwork with a dexterous hand,
 And caused to spring, as growing from the lake
 A larger island, as you'll understand,
 A proof of what invention's brain can make.

A crowd of buildings grew upon the isle,
 Works, offices and houses for the men.
 Upon the mainland, distant scarce a mile,
 A village sprang where solitude had been.
 And then by magic, so it seemed, began
 A strenuous life which lasted fifteen years,
 And many hundreds, with their hopes and fears,
 In work and play, 'twas thus their story ran,
 Mid steady thud of engines day and night,
 Mid roar of huge machinery in the mill,
 Mid pleasures and companions, happy, bright,
 Mid Nature's charming haunts serene and still.

But now the pumps are stilled, the mill is dumb,
 The silent streets with grass are overgrown,
 These many years no busy sounds have come
 From out the deeps where treasure store is known.
 The dwellers on this magic piece of ground
 Are scattered wide, so many are no more,
 A goodly number sleep quite near the shore
 Whereon the children's laughter used to sound.
 An eery feeling seems to creep o'er me
 As I look out upon the tideless sea,
 And fancy that the sunset's level rays
 Gilding the islet's ruins, but betray
 A ghastly skeleton of former days.

Thay haif said.
 Quhat say thay? .
 Lat yame' say.

—An old motto of Aberdeen University.

Editorial

HIPPOKRATES.

This practitioner of Athens flourished about the year 400 B.C., and it is to him that we owe many wise and helpful sayings relating to the science and art of medicine. He loved his art and was ever talking it to his friends and teaching it to his followers. The character of Hippocrates, his position, his close observation of nature, his knowledge, his philosophy, the times in which he lived, the circumstances which surrounded him, all conspired to make him a polemic and a reformer. It is interesting, in the light of modern achievement to read "The Law," written by this practitioner when an old man and published on another page of this issue. His words "Medicine is of all arts the most noble, but owing to the ignorance of those who practice it, and of those who inconsiderably form a judgment of them it is at present far behind all the other arts," may have been true in that day. They are very far from the truth in this day. Old Hippocrates, were he alive to-day, would revel in the great achievements of his beloved science. Medicine to-day leads all the other arts. Nowhere has advancement been so great as in the sphere of preventive medicine. All discoveries in medicine, in surgery, in pathology, and in the related sciences of chemistry, biology and physics have contributed to its progress and men have learned to-day that it is nothing short of a crime if certain diseases are allowed to run rampant and become a menace to the community. Preventive medicine is the medicine of the future.

CEASING TO LAUGH.

A lecturer from the United States made the statement, a short time ago, that the people of his country and of Canada are ceasing to laugh and quoted the saying of a visitor from Europe to New York. "The people I meet," said he, "seem to be hurry-

ing to a funeral." Is this true? Are we as a people ceasing to laugh? Some of our Canadian papers have of late been deploring the absence of Canadian humor. But is it true? If it is then we are of all peoples most miserable. And what is more we are neglecting one of the greatest health producers known to the human race. The human is the only animal who can laugh. If he doesn't laugh what are we to infer? The other day a wee, wan, neglected baby was taken from the city for a breath of fresh country air. For the first few days she was too weak to move, too sick to smile. But as the blood in its newness and richness began to dye the sallow cheeks a glowing red and as the flesh began to creep over the bony ridges of the little body, the baby's eyes first showed a trace of merriment and interest in what was going on around her, then the smile left the eyes and suffused the rosy cheeks until at last when the little body was well and happy the baby laughed, a good, round, merry laugh. Now she is known as the little sunbeam of the fresh air community. Health and laughter, these two. Let us laugh.

COLLEGE SITES.

Some college sites are at present in the centre of growing areas in our large cities. It is for this reason that some college executives are endeavoring to sell their sites for a huge sum of money and move to a cheaper location in the country in order that the land upon which they themselves and their children have been educated may pass into the subdivider's hands. Is it right that our cities should be denuded of their open spaces in this wholesale and worldly fashion? One would suppose that college executives, before all people, would estimate an open college site in a large city at its true value, to aesthetics, to education, to health. One stands amazed at this growing tendency on the part of our colleges—institutions let it be understood that

are not in need of the money—and it is to be hoped that they may, ere it is too late, come to a righteous conclusion and decide to stay and gladden the hearts of our great cities.

PARTISANSHIP.

The greatest evil in this old world is not intemperance, nor social impurity, nor the sweat-shop in overcrowded tenements, nor the greed of giant corporations, nor the graft of great politicians, nor food adulteration, nor the wholesale slaughter of innocent children, nor the lack of appreciation of the value of a human life. The greatest evil in this day is partisanship, so blind, so docile that it is led whithersoever the party willeth. There is no need to elaborate this. It is sufficient to state it. It is sufficient to say that if partisanship did not rule, all these gigantic evils which menace our civilization to-day would vanish almost in a night. The people know, but the people are partisan.

THE POET LAUREATE.

The Medical profession has been honored in the appointment of Dr. Robert Bridges, M.A., M.B., Litt.D., to the highest official position in English poetry. He is one who will fulfil his duties to the satisfaction of the British public, but his keenest satisfaction will be in the poetry written for the small select circle which surrounds him in his retirement. For he is essentially a quiet, unassuming man. Hereafter his name will be better known to the world at large, but that will not mean greater happiness for him. A poet's best work is done to satisfy his own soul. It is interesting to recall the names of those physicians who have been or are now prominent in literature. Oliver Wendell Holmes was professor of anatomy and physiology at Harvard for a period of 35 years, and a great literary star. Dr. John Brown, a physician of Edinburgh, will live for ages through "Rab and His Friends." Dr. Weir Mitchell, of Philadelphia, is a specialist in nervous diseases of world-wide repute, and yet a novelist who has brought honor to his native city. Sir Arthur Conan Doyle is best known by his Sherlock Holmes, but he spent years in the practice of his profession, and it was while a student of medicine in Edin-

burgh that he received from his favorite professor the ideas which later crystallized in Sherlock Holmes. Sir Frederick Treaves is one of England's greatest surgeons and his writings are voluminous and delightful. Dr. Wilfrid Greenfell, a student and protege of Sir Frederick's, is known to us all as the apostle of the Labrador, and his contributions to literature are thrilling thousands. Dr. Stephen Paget, the son of Sir James Paget, is a surgeon in London, but one fancies that his happiest moments are spent with the pen. He writes as one who knows the art thoroughly. Sir William Osler, who is known as a great physician wherever physicians congregate, is also a great writer and a great bookman. The brilliant Keats was numbered among the physicians, and Oliver Goldsmith was an M.B. of Dublin, who occasionally plied the lancet and the pill. Our own Canadian, William Henry Drummond, in the intervals of his busy practice in Montreal, wrote poems on the Habitant, which will live while English remains a language and the French remain our brothers and neighbors. Dr. Andrew McPhail, of Montreal, is a litterateur and an essayist of repute and an editor withal, who lectures on the History of Medicine to the students of McGill. In Toronto there is at present a practising physician whose poetry will take a foremost place among English prose, when his second volume is published this autumn. These are some of the literary lights among the members of the medical profession. Are there others? We shall be glad to know.

CANADIAN ANNUAL REVIEW.

Mr. J. Castell Hopkins has now given to us the 12th volume of this most valuable publication. It is a matter of regret that from such a magnificent work as this there should have been omitted reference to the Public Health of Canada and the Canadian Public Health Association. In the 1912 volume there is in the index under "Public Health of Canada," three references to pages 317, 331, and 332. These prove to be very short accounts of some of the work of Mr. Hanna's department in Ontario. During the past three years the Canadian Public Health Association has been formed, is flourishing, is doing splendid work, and has held already two con-

gresses, and the third is slated for Regina on Sept. 18th, 19th and 20th. During this period not one reference to it has been made by Mr. Hopkins. The most important work in Canada to-day is the work in preventive medicine, otherwise known as public health, and it is hoped that the 1913 volume will remedy this error of the past few years. It seems as though, recognizing its importance, a special department should be given over to the activities of public health workers in the various provinces of Canada.

MEDICAL INSPECTION OF SCHOOLS.

It has been demonstrated that medical inspection of schools is a valuable necessity. It has not yet been proven that the present method of carrying on this work is necessarily the very best. It seems sane to suppose that a great deal of overlapping occurs in some towns and cities in Canada where medical inspection has reached its greatest efficiency. In Ontario, for example, where a new Health Act was passed a little over a year ago, the Medical Officer of Health is given a commanding position in each municipality, such as he never enjoyed before. He is superior officer to the Medical Inspector of Schools, and may at any time step in and supersede that inspector if he deem it necessary in the interests of the health of the community. Why then pay a large salary to a chief medical inspector of schools when this should be a department of the local Board of Health under the supervision of the M. O. H. It would appear that money is being wasted. Let the M. O. H. have charge of the medical inspection of schools, appointing his necessary lieutenants. This seems to be the ideal system.

SILVER ISLET.

Those who journey next month to Regina for the sessions of the Third Congress of the Canadian Public Health Association, and proceed by the steamers of the Upper Lakes will see, upon the right hand, as they approach the entrance to Thunder Bay, a group of ruins, upon a tiny island a mile off shore. The story of how these buildings arose upon just that place, and of how they came to be ruins, is one of the most romantic in the history

of the mineral wealth of Canada. Time was when the waves of Lake Superior washed over, a small piece of rock sticking its head a tiny way above the water, of such insignificance that it was barely discerned from the shore. One day the prospector discovered silver there, and as he bored farther and farther into the rock his eyes beheld a return of immense value. Thereupon work began in earnest and around the tiny rock was thrown that which came from its own bowels, until, after much difficulty and discouragement, a larger island was formed, upon which were reared all the appurtenances of the mining camp. Here the men upon the day or the night shift were housed and fed. Here the machinery throbbed unceasingly. Here was the most famous and the richest silver mine in all the world. Upon the mainland a village grew, stretching along a mile and a half of water front. Here was a church, there a school; here the store, there the great stamp mill. And so for many years a busy life hummed upon this isolated bit of territory. But one day the machinery stopped. Rumor says that the management found it at the last difficult to mine at a profit on account of the task of pumping out water, which was running into the drifts from the lake under which they were. They wanted the mine to close. The story also is told of the coal which did not come, because of a drunken captain running his boat ashore near the Sault. At any rate, the day came when the last shovelful of coal was thrown into the furnaces, the machinery stopped, the mine filled with water, and the miners thrown out of employment marched across the ice to their wives and children on the mainland singing "How Firm a Foundation," with the richness of their Cornish voices. To-day Silver Islet is one of Canada's most beautiful summer resorts. It is the pride of the citizens of Thunder Bay. The old buildings on the mainland are still standing, and during the summer months house as merry a company of people as can be found anywhere. And one can sleep o'nights there, rolled in blankets, and thankful for them. Hay fever? Not at Silver Islet. The old buildings on the Islet itself echo now only to the occasional shout of the stray visitor, who pulls his craft for an hour upon the beach and wanders among the ruins.

Correspondence Corner

THE CARE OF THE FEEBLE-MINDED.

Toronto June 25th, 1913

To the Editor

The Public Health Journal:

Sir,—You will no doubt have learned through the press of the appointment of Dr. Helen McMurehy, of this city, to the position of Inspector of the Feeble-minded.

The Provincial Secretary, Hon. Mr. Hanna, in discussing the appointment, made the following statement to the press: "This step results partly from the movement set on foot in the last two years. I refer particularly to the convention of last winter, urging upon the municipalities co-operation in the care of the feeble-minded. Here the movement gained an impetus, and it will receive all the support the Government can give." This statement will, I am sure, be eminently satisfactory to every delegate who attended the convention in February last.

At the conclusion of that convention, the association met at the City Hall, Toronto, to consider plans for the future, and amongst the matters considered was that of ways and means to carry on successfully the work of the association, and a resolution was adopted to ask the municipalities to affiliate with this organization, and to contribute to its funds to assist in supporting its objects. This matter has been attended to and results are being secured; the municipalities taking out membership on a graduate fee of from \$10 for cities and \$2.50 for townships.

It was further resolved that individual membership should be placed at \$1 per annum, and I was directed to communicate with each delegate who had registered asking for their support. This becomes necessary in view of the educational campaign that must be launched this fall.

Your obedient servant,

EDWIN DICKIE,

Secretary.

Provincial Association for the Care of the Feeble-minded.

A CORRECTION.

To the Editor

The Public Health Journal:

Sir,—In your last issue, under the heading "Proposed Federal Law in Regard to the Pollution of Navigable Streams," you print the following paragraph:

"Analyses show, for instance, that the amount of chlorine in the west end of Lake Ontario has increased two and a half times in thirty years, while in the easterly end the amount of chlorine has doubled in twenty years. This increase in chlorine indicates sewage pollution, which, if not stopped or minimized, will in time render even our Great Lakes unsafe for use as a public supply."

Now, whilst there can be no doubt as to the facts in the first paragraph, the inference deduced in the first portion of the second paragraph is, I think, entirely, or almost entirely, false. In my evidence before the Committee of the House of Commons, I dealt with this question very fully, and pointed out that the chlorine content of the lakes has increased to an extent that cannot possibly be accounted for by sewage pollution. Taking the sewage discharged at 100 gallons per head per day, and the chlorine content at 100 parts per million, if the sewage of the entire population of the Dominion of Canada and the United States were discharged into the lakes, the chlorine content would only be increased by approximately four parts per million. It is impossible to conceive that the chlorine could accumulate in lakes whose waters are continually being mixed by wind and wave action. This is supported by the fact that the total solid content of the waters of the lakes has not increased during the last 60 years. Again, take the figures given by Dr. Amyot, in the Amer. Jour. Pub. Hyg., 1909, p. 473, for the chlorine content at various places on the lakes:

Port Arthur.....	1	part per million
Soo Ste. Marie	1	" "
Kincardine	3	" "
Goderich	3	" "
Sarnia	3	" "
Courtwright	4	" "
Windsor	8	" "
Bridgeberg	8	" "
Toronto	8	" "
Brockville	8	" "

The pronounced increase took place in the Sarnia to Windsor district, and no difference was found between the west end of Lake Erie and the eastern end of Lake Ontario. The increase is, therefore, altogether disproportionate to the population of the district drained, and is probably due to the saline deposits of the St. Clair district and oil fields of Ohio.

The statement that the chlorine increase indicates a sewage pollution has been repeated so often without contradiction, that it has become an accepted fact by many sanitarians, and I think the time has now arrived when the promoters of this theory should either support it with facts or cease to use it.

Thanking you, in anticipation for the publication of this letter, I am,

JOSEPH RACE.

City Bacteriologist, Ottawa.

USES OF VEGETABLES.

Perry Sta., Ont., July 2nd, 1913.

To the Editor

The Public Health Journal:

Sir,—If the public were fully convinced of the value of green vegetables there would be a great falling off in the consumption of patent nostrums.

A few of the commoner vegetables that are with us now, or will be as the weeks go by, are worthy of consideration for their nutritive as well as their physiological effect.

So, when a person finds himself bilious or his liver sluggish, instead of running post haste to the apothecary's shop for a bottle of iron and sodium, eat for a few weeks radish, spinach, onions, lettuce and chard, vegetables that abound in iron, chlorine and sodium. They should be eaten raw, when possible, for cooking changes the value of the salts they contain and some are destroyed. Use plenty of eggs, too.

The nervous and irritable person should take a short diet course in celery and lettuce, and he'll be cured. Celery is a specific for rheumatism, too.

Is it insomnia that troubles you? Then indulge freely in green onions and lettuce and you'll soon be in the Land of Nod.

For kidney ills eat asparagus. This vegetable induces perspiration, and thus rids the system of impurities by the stimulus given the kidneys.

For constipation eat lettuce and spinach, the latter is noted for its aperient properties, so, too, are apples and carrots.

Pepper grass or cress is an excellent blood purifier. This "green" may be planted every two weeks and so be had on the table throughout the season.

Tomato and rhubarb are full of oxalic acid, the excessive use of which thins the blood, but they are a pleasant accessory to our table and very beneficial when eaten in moderation. People that are subject to gout would do well to avoid the tomato.

Cabbage, brussels sprouts, cauliflower and kale abound in sulphur and chlorine, and when young are easily digested.

Pumpkin, squash, vegetable marrow, and melons are valuable in dietetics for the amount of water they contain.

Thus we see that there is a pleasant vegetable for all our ills, and by a little forethought on the part of the housewife she will be able to serve up dishes of health to her household, the members of which will "rise up and call her blessed."

The vegetables should be eaten in their own season. The all-wise Father has brought them into perfection at a time when they are most needed by the system. They should be fresh, and it is better to steam them than to boil them; they retain their flavors better; do not get water-soaked and are more palatable.

Yours etc.,

F. M. CHRISTIANSON.

AN INVITATION.

To the Public:

Dear Sir or Madam,—We invite correspondence and questions on all matters pertaining to the broad field of Public Health. The correspondence will benefit other readers and the questions we shall answer to the best of our ability in the columns of *The Journal*.

Book Reviews

*A Good Book is the Previous Life-Blood of a
Master Spirit Embalmed and Treasured.—Milton.*

How easily, how secretly, how safely in books do we make bare without shame the poverty of human ignorance. These are the masters that instruct us without rod and ferule, without words of anger, without payment of money or clothing. Should we approach them, they are not asleep; if ye seek to question them, they do not hide themselves; should ye err, they do not chide; and should ye show ignorance, they know not how to laugh. O Books! Ye alone are free and liberal. Ye give to all that seek, and set free all that serve you zealously.

—Richard De Bury, *Philebilon*.

RATIONAL DIET.

In the first portion of the book the author deals generally and in detail with the influence of food upon man, and in this connection he points out that the effect of various kinds of diet as regards the growth of the individual is largely due to their influence upon the organs which stimulate the growth of the body, such as the thyroid gland, the hypophysis and the sexual glands. He then considers the question of rational diet, dealing with the effects of malnutrition, deficient nutrition, and excessive nutrition. A considerable section of the book is devoted to an estimation of the good and bad effects of various food substances, and their suitability to different climates, together with their influence on the activity of the bodily functions. In the last chapter the writer emphasizes the necessity of nourishing and suitable food for the young and growing organism, and of moderation in the later periods of life. The volume represents a supplement to his former book on "Old Age Deferred." In order to render it of more general interest a glossary is added, giving the meaning of the medical terms which are employed.

**"HEALTH AND LONGEVITY
THROUGH RATIONAL DIET"**—By
*Dr. Arnold Loran: Physician to the
Baths, Carlsbad, Austria—416 Pages—
F. A. Davis Co., Philadelphia, Pa.—
Price \$5.00 Net.*

THE CARE OF THE BABY.

This is a book which explains the daily care of an infant with the simplicity of a master. Dr. Kilmer leaves nothing to instinct. Neither does he confuse the mind with strange terms and thorough descriptions of abnormal conditions.

The daily routine of bathing, feeding and clothing is thoroughly discussed, with illustrations showing such apparently simple procedures as lifting the child, while the difficult task of infant feeding loses its terrors after reading the eight sections devoted to that subject. The diet schedule, with receipts for children from the first to the sixth year of age, is an unusual feature. The concluding sections are devoted to the symptoms of the unusual diseases of childhood.

The book should be valuable to physicians and nurses, not only for the practical hints it contains for them, but also because it indicates the details a mother is usually expected to know and does not.

**THE PRACTICAL CARE OF THE
BABY AND YOUNG CHILD**—By
*Theron Wendell Kilmer, D.D., Lecturer
in Diseases of Children in the New York
Polyclinic Medical School and Hospital;
Assistant Attending Physician, (Children)
in New York Polyclinic Hospital;
Consulting Pediatric Summer House of
St. Giles, Garden City, New York; Con-
sulting Pediatricist to the Hempstead
Sanatorium, Hempstead, N.Y.—Second
Revised Edition—150 Pages—Publisher
F. A. Davis Co., Philadelphia, Pa.—
Price \$1.00.*

PRICE'S HYGIENE AND SANITATION FOR NURSES.

"Hygiene and Sanitation for Nurses," by George M. Price, M.D., is one of the much-needed text-books for Public Health Nurses, and it is not a surprise to find it dedicated to Lillian D. Wald, "the pioneer of public health nursing in the United States and the foremost advocate for the extension of the scope of the nurses' work." Unfortunately, its two hundred pages attempt to cover the entire field of nurses' work with the exception of "rules for the care and treatment of diseased persons—as these are taught to the nurses in their regular curriculum in the training school." Had the author consulted the text-books already in use, it would have been possible to omit the discussion of subjects, such as infant feeding and personal hygiene. If the nurse can forgive not a few wearisome repetitions, she will discover in the book many essential subjects of which she is ignorant and will appreciate its community mindedness. The sections on plumbing and drainage, and the control of the water and milk supply are particularly good. The section on inspection of foods is not sufficiently thorough to be of practical value.

The book suggests that the author sketched an outline and dictated the text in his spare moments. The duplication is quite trying, and the proofs even have not been corrected.

The other books by this author, "A Hand Book on Sanitation" and "Tenement House Inspection," should prove of greater value, because more limited in scope.

HYGIENE AND SANITATION—A Text-Book for Nurses—By George M. Price, M.D.—12 Mo.—236 Pages—Price \$1.50
—Lea and Febiger, Philadelphia and New York.

CELL REPRODUCTIONS AND CANCER

This little volume gives, in a very concise form, the results of some extensive and extremely important researches, chiefly carried out in the laboratories of the

Lister Institute. The first section deals with the problem of the gas work pitch industries and cancer. There is strong evidence to show that in most cases, if not in all, cancer supervenes in a part of the body which has been subjected to some form of chronic irritation, and the results of the investigations indicate that such chronic irritations become much more dangerous when accompanied by the presence of pitch products or allied agents. The writer believes that the cell proliferation, which occurs in association with chronic irritation, is due to the setting free of auxetics, or excitors of reproduction, and that cancer is due to the co-operation of two factors, namely, the auxetics, which cause benign proliferation, and augmentors, which are responsible, when associated with auxetics, for malignant cell proliferation. Experimental results indicate that the deleterious elements can be eliminated from the tar by washing, and that after this process it remains equally serviceable for the manufacture of pitch. Further experiments have shown that auxetics induce cell division, and the injection of these substances into the mammary glands of goats has produced fibroadenomatous nodules. The possibility is suggested that chemical auxetics, owing to the fact that they produce cell proliferation, may be of service in the treatment of wounds, exclusive of those due to operations for removal of malignant growths. Three chapters are devoted to three protozoal parasites, namely, Kurloff's bodies, found within the lymphocytes of guinea-pigs, the protozoal nature of which has recently been discovered by Dr. H. C. Ross, a protozoal parasite which has been discovered by one of the writers in certain earth worms, and the protozoal parasites recently demonstrated in human syphilis. The jelly method of examination has demonstrated the development of the two first mentioned parasites into free spirochaetes, and the possibility that these parasites represent the cycle of sporogony is suggested. The two concluding chapters of the book are devoted to a consideration of the development of trypanosomes in the presence of auxetics, and of cell inclusions in the causation of scarlet fever and measles. The work is of considerable value, as representing the results of original and im-

portant investigations, and is rendered still more so by the large number of very excellent illustrations which it contains.

RESEARCHES INTO INDUCED CELL REPRODUCTION AND CANCER, Etc.—By H. C. Ross, M.R.C.S., Eng.; L.R.C.P., London; E. H. Ross, M.R.C.S., England; L.R.C.P. London; and R.

Bayon, M.D., Genoa and Wurzburg; W. J. Atkinson Butterfield, M.A., F.I.C., Assoc. Inst. Civ., England; E. Jennings, D.P.H. Cantab, M.R.C.S., England; Lieutenant-Colonel I.M.S.; S. R. Mowlgavkar, F.R.C.S., London—Volume III.—149 Pages—17 Plates—John Murray, Albemarle St., London, W.—April 1913.

BOOKS RECEIVED.

The following books have been received, and the courtesy of the publishers in sending them is hereby acknowledged. Reviews will be made of these volumes from time to time.

MODERN TREATMENT OF NERVOUS AND MENTAL DISEASES—By American and British Authors—Edited by William A. White, M.D., and Smith Ely Jelliffe, A.M., M.D., Ph.D.—Volume II.—Illustrated—Price \$6.75—Lea and Febiger, Philadelphia and New York—D. T. McAnish and Co., 4-12 College Street, Toronto—1913.

PREVENTIVE MEDICINE AND HYGIENE—By Milton J. Roseneau—Illustrated—D. Appleton and Company—New York and London—1913.

A TEXT-BOOK OF BIOLOGY, for Students in Medical, Technical and General Courses—By William Martin Smallwood, Ph.D. (Harvard)—Illustrated—Price \$2.75—Lea and Febiger—Philadelphia and New York—1913.

THE HEART AND BLOOD VESSELS; Their Care and Cure and the General Management of the Body—By I. H. Hirschfeld, M.D.—Price \$1.25 net—Funk and Wagnalls Company—New York and London—1913.

HYGIENE AND PUBLIC HEALTH—By Sir Arthur Whitelegge, K.C.B., M.D., B.Sc. Lond. F.R.C.P., D.P.H., and Sir George Newman, M.D., F.R.S.E.—Illustrated—12th Edition Revised Throughout—Price \$1.50—Cassell and Company, Ltd., London, New York, Toronto and Melbourne—D. T. McAnish and Co., 4-12 College St., Toronto, Canada—1911.

VACCINE THERAPY: Its Theory and Practice—By R. W. Allen, M.D., B.S. (Lond.)—Fourth Edition—The Macmillan Company of Canada, Limited, Toronto—1913.

A CLINICAL SYSTEM OF TUBERCULOSIS; Describing all Forms of the Disease—By Dr. B. Baudelot and Dr. O. Reepke—Translated from the Second German Edition by G. Bertram Hunt, M.D., B.S.—Illustrated—The Macmillan Company of Canada, Limited, Toronto—1913.

CHILDREN—THEIR CARE AND MANAGEMENT—By E. M. Brockbank, M.D., (Vict.), F.R.C.P.—Price \$1.00—Henry Frowde and Hodder and Stoughton—London—D. T. McAnish and Co., 4-12 College St., Toronto, Canada—1912.

SOCIAL ENVIRONMENT AND MORAL PROGRESS—By Alfred Russell Wallace, O.M., D.C.L. Oxon, F.R.S., Etc—Cassell and Company, Limited, London, New York, Toronto and Melbourne—D. T. McAnish, 4-12 College St., Toronto, Canada—1913.

THE PRACTICAL CARE OF THE BABY AND YOUNG CHILD—By Theron Wendell Kilmer, M.D.—Second Revised Edition—Illustrated—150 Pages—Price \$1.00—F. A. Davis Co., Philadelphia, Pa.—1913.

HEALTH AND LONGEVITY THROUGH RATIONAL DIET—By Dr. Arnold Lorand—416 Pages—Price \$2.50—F. A. Davis Co., Philadelphia, Pa.—1913.

RESEARCHES INTO INDUCED CELL REPRODUCTION AND CANCER, ETC.—By H. C. Ross, M.R.C.S. (Eng.), L.R.C.P. (Lon.), and Others—Volume III.—149 Pages—17 Plates—John Murray, Albemarle St., London, W.—1913.

HYGIENE AND SANITATION—A Text-Book for Nurses—By George M. Price, M.D.—12 Mo.—236 Pages—Price \$1.50—Lea and Febiger, Philadelphia and New York.

Meetings and Reports

REGINA, SASKATCHEWAN

is the rendezvous of the

Third Congress

of the

Canadian Public Health Association

September 18th, 19th, 20th

A Splendid Programme

A Delightful Entertainment

FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE

Buffalo, N.Y., August 25th to 30th

Buffalo Planning Big Entertainment for Health Workers.

The city of Buffalo is preparing an elaborate entertainment for the several thousand delegates expected at the Fourth International Congress on School Hygiene, according to a statement just issued by B. Herbert Blakeslee, executive secretary of the Buffalo Citizens' Committee. The Congress will be held the last week in August, and will be attended by delegates from all the leading nations of the world.

"The programme of the entertainment," says Mr. Blakeslee, "will be of such a nature that something will be ready for the delegates every spare mo-

ment outside of their regular work. The various clubs of the city will be open to visitors. Special automobile trips will be taken through the beautiful parks of the city, ending at the Country and Park Clubs, where polo and tennis exhibitions will be given. There will be special receptions at the Buffalo Club, the University Club and the Twentieth Century Club. Different societies of the city are also planning to entertain the delegates from their fatherland. There will be an exhibition of folk dancing, interspersed with music by the combined choral societies of the city. There will also be special trips to the world's great scenic wonder, Niagara Falls.

"The Women's Entertainment Committee is composed of over 100 of the leading society and club women of Buffalo. The Women's Committee is divided into groups representing different foreign countries and sections of our own country. There is a French, German, Italian, Russian, Polish, Scandinavian, South American, Mexican, East, West and Southern States, Scotch, Irish and English group, and the duties of these groups will be to look after the delegates from these particular localities.

"During the Congress nearly 2,000 Boy Scouts of Buffalo will act as guides to the visitors. Boy Scouts will be stationed day and night at the railroad stations and docks to meet the visitors upon their arrival. Each boy will wear a badge indicating what foreign language he speaks, so that it will be no trouble for the delegates to make their wants known. The women's clubs will also give their services in assisting the women at the different headquarters and meeting places of the Congress

"Buffalo is aiming to make this Congress a notable gathering. We recently took up a collection of \$40,000 for defraying the expenses of the Congress, and among those who contributed were not only the wealthier citizens, but also the newsboys and school children. Even the children of the night schools in the poorer sections of the city contributed their mite. So you see we are very deeply interested."

The opening meeting of the Congress will be held at 10.30 a.m., August 25th, at which time either President Wilson or his representative, and the Governor of the State, with Dr. Charles W. Eliot and his Honor the Mayor of Buffalo, will address the delegates and welcome them to the city. The Congress will close August 30.

Women Aiding in Health Work.

One of the biggest health movements ever undertaken in America, it is interesting to note, is now enlisting the earnest support of the women of this country. It is in fact more or less depending upon their support. This movement is an effort to improve the health and efficiency of our 20,000,000 school children,

and the co-operation of the women of America is being furnished in a number of ways, namely, as school teachers, again as physicians and nurses, as mothers, and still again through those numerous organizations in which women play an important part—organizations like the School Improvement Association, the Parent-Teachers' Association, School Boards, Mothers' Congresses, and the several thousand Women's Clubs of the General Federation of America.

In Buffalo, the last week in August, a special feature on the programme of the Fourth International Congress on School Hygiene will be a session organized under the direction of Mrs. S. S. Crockett, of the General Federation of Women's Clubs of America. Mrs. Crockett is chairman of the Public Health Department of the General Federation, which is now calling attention to the serious importance of the Buffalo gathering.

In this connection it might well be said that no particular field of work in the line of health improvement offers a better opportunity, possibly, than a movement for the betterment of the schools of to-day. No problem is more vital to the mother certainly than the care and protection of her children while they are beyond her sight. All children go to school, but the conditions under which they go to school—are they what they ought to be? Is the school room properly heated? Is it properly lighted? Is it well ventilated? Are the sanitary conditions surrounding the school house such as they ought to be? Are the other school children carriers of disease? Is the school session too long? Is the mental condition of the school children taken into consideration when it comes to the hours of study? These are questions which can be asked by the women of any community.

To the women of the country the Buffalo Congress is important, because it will give them the result of research work carried on in all the leading nations. It will give them the best methods of work for their own individual communities. One of the objects of the Buffalo Congress is to make known the best ways of improving the health of school children.

In the 250 contributors to the programme are college presidents and pro-

fessors, state, city and county commissioners of education, teachers of public schools, medical college professors, state, county and city health officers, physicians in private practice, engineers and architects.

Buffalo Congress to Mark the Greatest Advance Ever Made in School Hygiene.

By FRANCIS E. FRONCZAK, M.D.,
Commissioner of Health for the
City of Buffalo.

The Fourth International Congress on School Hygiene, to be held at Buffalo, August 25-30, will mark the greatest advance in school hygiene that the world has ever seen. Ever since the first Congress on School Hygiene was held in Nuremberg in 1904, interest in the welfare of coming generations has been rapidly increasing, until the whole civilized world is now alert to its responsibilities, and there will be present at the Fourth International Congress on School Hygiene, in Buffalo in August, a vast assemblage of teachers, investigators, physicians, dentists, sanitarians, and other public-spirited citizens from every quarter of the globe.

That there is great need for such a gathering as this Fourth International Congress, statistics prove. In some few cities, a fairly good system of medical inspection is in effect, but the urgent need of extending efficient medical school inspection throughout the individual communities is very apparent, as shown by recent investigation. The Congress will conclusively prove that adequate laws for medical school inspection are needed, and needed badly, because it has practically demonstrated that vastly improved health conditions among school children follow efficient medical inspection; that they are, to a greater extent, safeguarded from disease; hence are healthier, happier, more vigorous, and thereby better fitted for good citizenship.

Malnutrition in school children is largely responsible for moral and physical deficiency; therefore, it is proposed, at this Congress, to include in the general programme, that most interesting subject—The Problem of School Luncheon. Not only does the school luncheon provide nutritious food for the child in-

creasing its mental efficiency, but such lunches, prepared and served under proper supervision, aid in the formation of good dietary habits. Where teachers and pupils eat together, a greater degree of friendliness is cultivated between teacher and pupils and among the children themselves, and courtesy also becomes more apparent. Here is afforded a splendid opportunity for the teacher to more intimately study the pupils, become better acquainted with their individual needs, and so be able to more advantageously instruct them. Furthermore, this system provides an outlet for the products of domestic science classes, for it creates an added demand, and in which classes it is possible to afford general instruction regarding pure food, food costs, **fuel value** of foods, etc., and thus adapt to their several households the school room menu. The serious importance of this subject cannot be overestimated, and, in recognition thereof, a large number of speakers from Europe and America will present the subject in all its phases at the Fourth International Congress in Buffalo.

"Fresh Air Schools" have been demonstrated to play a prominent part in the improvement of mind and body of backward children who, under the beneficial influence of outdoor teaching, develop into wholesome specimens of child-life. The Fourth International Congress on School Hygiene will place great emphasis upon the need of "Fresh Air Schools." It has been practically demonstrated that children living under unhealthy environment, who become pallid, weak, dull—subnormal in mind and body—(and thousands of our city children are in just such condition), have been restored to full vigor of life by being transferred to an "Out-of-Door School." This is being done in some slight degree at present, but is there any good reason why such a system should not be adopted for all subnormal children, and even extended to include every school attended? This is but one feature to be presented and discussed. The health of the teacher is of equally vital importance; hence at this great Congress will be emphasized Hygiene of Teachers.

Former generations have had very little information on the vital subjects to be presented at this International Con-

gress of School Hygiene, but to-day there is no excuse for living in ignorance. All the dangers which assail us as individuals, as families, or as a nation, are carefully investigated, and at such a gathering as this Congress are widely discussed. Thus are parents and teachers put in possession of knowledge of vital facts, thereby enabling them to control and direct that which hitherto they have failed to understand.

One of the most significant signs of the times is the awakened interest in the mysteries of life, as is shown in the attention being directed toward eugenics, mental and sex hygiene, legislation for the betterment of the mentally deficient, etc. It is but quite recently that the sole preparation for life was a certain degree of superstition, a little information—perhaps not very reliable—and much ignorance controlled largely by fear or perhaps curiosity. To a considerable extent this condition still exists, but for which, as stated, there is no excuse. The fact that such ignorance and superstition does exist, however, shows the necessity for attendance at the Fourth International Congress on School Hygiene at Buffalo.

Scientific and commercial exhibits will be a prominent feature of the Fourth International Congress on School Hygiene, and will depict the great advance which has been made in school administration, architecture, equipment, etc., and to some extent afford ideas for future progress.

The advantages to be obtained by attendance upon the sessions of this great School Hygiene Congress will be largely augmented by your visit to Buffalo—a city of about half a million inhabitants, cosmopolitan in character. English, Irish, Germans, French, Poles, Italians, Greeks, in fact, people representing nearly all nations, living together in harmony, and all uniting to uphold the integrity of the country of their adoption. Situated at the eastern extremity of Lake Erie, where it empties its beautiful clear water into the magnificent Niagara River, the City of Buffalo is an attractive spot, and within an hour's ride of the great Niagara cataract and gorge, where are located the immense electric power plants, affording opportunity for most interesting and instructive diversion.

Two hundred and fifty papers by leading educators and health workers of this country and from all the other foremost nations of the world; twelve or more general discussions of health problems in the school by national associations; a special consideration of such questions as "The School Luncheon," "The Backward Child," "School-room Lighting," "Mouth Hygiene," "Health Supervision of University Students," "The Teaching of Sex Hygiene," "Tuberculosis Among School Children," and "The Teaching of Health Principles;" "Medical, Sanitary and Hygienic Supervision in Public Schools"—this, in short, is the program promised for the Fourth International Congress on School Hygiene, which will be held at Buffalo the last week in August, under the presidency of Mr. Charles W. Eliot, President Emeritus of Harvard University.

Special sessions are being arranged on the following subjects:

School Feeding—Arranged by the Committee on School Feeding of the American Home Economic Society.

Oral Hygiene—Arranged by National Mouth Hygiene Association.

Sex Hygiene—Arranged by the American Federation of Sex Hygiene.

Mental Hygiene—Arranged by the National Committee on Mental Hygiene.

Conservation of Vision in School Children—Arranged by the Society for the Prevention of Blindness.

Health Supervision of University Students—Arranged by Dr. Mazyek P. Ravenel, University of Wisconsin.

School Illumination—Arranged by the Society of Illuminating Engineers.

Relation Between Physical Education and School Hygiene—Arranged by the American Physical Education Association.

Tuberculosis Among School Children—Arranged by the Society for the Prevention of Tuberculosis.

Physical Education and College Hygiene—Arranged by the Society of Directors of Physical Education in Colleges.

The Binet-Simon Test—Arranged by Professor Lewis Madison Terman, Stanford University.

The Mentally Defective Child—Arranged by Dr. Henry H. Goddard, Vineland, N.J.

PREVENTION OF OCCUPATIONAL DISEASES

By W. GILMAN THOMSON, M.D.

New York City.

The problem of the prevention of the occupational diseases may be sub-divided as follows:

1. What the State may do.
2. What physicians may do.
3. What manufacturers may do.
5. What the public press may do.
6. What the general public may do.
7. What special organizations may do.

1. **What the State may do.**—The work of the State should be (1) educational, through the collection and dissemination of data; and, (2) preventive, through prohibitive and protective legislation.

In this country, the idea of legislative control of occupational diseases has arisen long after that of the safeguarding against occupational accidents. It has arisen in great part from the example of foreign countries, in many of which such legislation has long been in active operation; in part from the increasing desire to promote efficiency in all classes of labor and in part from the influence of humanitarian societies or associations and the self-protecting influence of labor organizations. Up to the present time, in the United States, legislation, with only one or two exceptions, has taken the form, as far as occupational diseases are concerned, of attempting to regulate factory ventilation, a problem which is of extreme difficulty owing to the lack of universally accepted standards. About twenty States have vague laws requiring that factories shall be "well ventilated" or "sufficiently ventilated," and ten States specify a minimum cubic air space per occupant. New York State is the only one which provides for systematic analyses of factory air with publication of the results, and Illinois has made good progress in maintaining compulsory standards of air purity. With

the exception of these two States, together with New Jersey and Massachusetts, there has been little or no scientific factory inspection in the whole country, designed specifically to control occupational diseases. In the States mentioned, however, some very valuable intensive studies have been made by official inspectors of special industries, notably of the lead, pottery and pearl button industries, as well as those involving the use of mercury and phosphorus.

While we are thus greatly behind such countries as England, Germany, Belgium, and France, and several other European States in matters of legislation, it is a serious mistake hastily to enact such legislation before sufficient accurate statistics have been obtained. To accomplish this result, a good beginning has been made in eight States which have within the past two years passed laws compelling physicians to report officially a half-dozen of the occupational diseases, a list which in England has already been extended to 27.

There are, however, a few conditions which constitute such obvious evils that no statistical facts are necessary as a basis for their correction. For example, every one knows the horrible results of working in the match industry where while phosphorus is employed and the recent Congressional Act taxing this form of the industry out of existence affords the only illustration thus far in this country of preventing a disease by taxation. I see no reason why the use of wood alcohol as a solvent of shellac should not be absolutely prohibited wherever this product is used in confined air, as in the interior of brewers' vats. I see no reason also why laws should not be enacted compelling the placing of warning labels upon containers of

hazardous substances, such as kegs of white lead, paint cans, barrels of ferrosilicon, etc., just as poisonous drugs must now be labelled. The caisson disease is another example of a disease readily controlled by legislation.

On the other hand, there are many industries very difficult to thus control which are numerically important, not because they are liable to cause early death, but because they lay the foundations of disease in a very large number of workmen. For example, in the lead industries, it is comparatively easy to control the operation of smelting works, white lead works, etc., but a large majority of all cases of chronic plumbism develop among painters who may not work collectively in factories, but outside and independently. In the histories of over 300 cases of lead poisoning which I have collected in my hospital and dispensary clinics in New York 75 per cent. of the victims were painters. It is in such instances that education may prove more effective than legislation.

The educational function of the State should consist in the collection and publication of records of the occupational diseases, base upon reports of physicians and inspectors in conformity with the universal nomenclature now being devised by the Bureau of the Census in co-operation with the American Medical Association. The publications should comprise not only statistical returns, but concise descriptions of the principal occupational diseases for distribution to physicians, hospitals, and dispensaries and also to factory employees. A booklet containing such description which I formulated, has been issued by the New York State Labor Bureau and constitutes a beginning in this direction. For manufacturers, leaflets should be issued calling attention to the hazards of their special industries, with suggestions as to prevention.

Finally, such travelling exhibits as those prepared by Massachusetts and New York State authorities are of the greatest possible value.

Finally, such travelling exhibits as those prepared by Massachusetts and New York State authorities are of the greatest possible value.

2. **What physicians may do.**—By hearty co-operation with the State authorities in gathering accurate data of the occupational diseases, physicians should furnish the facts upon which future legislation may alone properly be based. They should see to it that the hospital and dispensary clinics which they attend should collect statistics of real value, based upon uniform standards. I have seen a serious case of plumbism in a man who carried lead ingots in a smelting works, yet who was entered upon the hospital records simply as a "laborer." On the other hand, a young man who was entered as an "electrotyper" was employed merely in tending the outer office of the bookkeeper of the establishment. In my Medical Clinics in Bellevue Hospital and Cornell University Medical College in New York City, I have supplied special history blanks for the detailed records of the occupational diseases, and also printed leaflets of information which are given to workers in special industries, as that of painters, typesetters, etc.

The most satisfactory aid which physicians can furnish, however, is by undertaking intensive investigations of special industries, and giving the results due publicity in the medical press. Such a research, for example, as that of one of my clinical staff, Dr. Edward L. Keays, comprising the results of personal study of 3,692 examples of caisson disease is worth far more than years of collection of isolated reports made to the State under the Physicians' Notification Act. Much valuable intensive investigation has also been made by physicians and others under authority or direction of the State, like the lead investigation of Dr. Alice Hamilton and Mr. E. E. Pratt, and many interesting studies by Dr. John B. Andrews, Dr. Graham Rogers, not to mention others. But the point is that there are many physicians throughout the country who, by virtue of their official connection with large industrial establishments, are in a position to furnish extremely useful facts, if they could be aroused to do this work. At present, most of this valuable material is, so to speak, going to waste. It might be feasible for the State to furnish these physicians with specially prepared blanks for uniform clinical records and in some instances to furnish official inspectors to

co-operate with the physicians. Lay inspectors may properly deal with conditions of environment such as obvious dust hazards, the presence of toxic fumes, the lack of ventilation, etc., but the extent of injury which such deleterious conditions produce and the often insidious symptoms of chronic poisoning can only properly be estimated by trained physicians. Moreover, before the latter come very many patients with chronic diseases, particularly of the circulation, respiration, and kidneys who have long since abandoned the occupations which produced them, and hence such patients have passed out of any possible industrial control which the State might exercise.

Typhoid in the United States.

We have been so accustomed in this country to regard the typhoid rates in our large cities as deplorably and inexcusably high that the facts recorded in a special article in this issue will come as a surprise to many of our readers. Collection and tabulation of these data have been prompted by the conviction that the actual typhoid conditions in American cities should be widely known both as an encouragement to those municipalities that have inaugurated comprehensive reforms in water supply and sewage disposal, and as an incentive to those still halting by the wayside. Perhaps the most significant fact is that in the last six or eight years a revolutionary improvement has been brought about in the water supply of many large cities. Common fairness demands that in such cases as wide publicity be given to the present satisfactory condition as was given to the discreditable situation of a decade ago. It should be a matter of national pride that Philadelphia and Pittsburg, for example, now have excellent public water supplies and that the danger of contracting typhoid fever in those cities is relatively slight.

The data we have gathered emphasize strongly the need of insistence on a pure or purified water supply as the first and most important step in a national campaign against typhoid fever. In practically all cases improvement in the character of a water supply has been followed by a great, often a remarkable, typhoid

diminution, as witness Cincinnati, Pittsburgh and Minneapolis. In nearly every city also in which the drinking water has been good throughout the period covered by these figures, typhoid has been steadily declining. This is, perhaps, just what would be expected from the cumulative decrease in the number of carriers and consequent lessening in the opportunity for contact infection and food contamination. Every case prevented narrows the circle of infection. The prevention of thousands of cases, as at Pittsburgh and Philadelphia, avoids the formation of several scores of permanent typhoid carriers who might help to disseminate the disease throughout the country or remain for years to plague the community that produced them. However important the direct question of water supply may be, this other factor should not be overlooked.

Another possible—indeed, probable—factor in the striking diminution in typhoid now going on in American cities is the rapidly increasing use of pasteurized milk. Sanitarians should closely study this phase of the typhoid problem more closely.

Whatever the underlying sources may be, it is gratifying to see that we are in a fair way to lose our national pre-eminence in typhoid mortality. The rapidity with which the change is taking place is surprising to even the best-informed of us. The Journal proposes each year to print a tabulation similar to that appearing in this issue with the hope of suggesting or accelerating further improvement. Typhoid fever does not belong in civilized communities; it is not a disease that American civilization can tolerate. It must go.—*Journal American Medical Association.*

Ontario and Smallpox.

Dr. McCullough, Chief Health Officer of the Province, and the Provincial Board of Health are to be commended for their prompt action in enforcing the regulations regarding public vaccination in connection with the smallpox outbreak at Niagara Falls, Ont. This prompt action on their part undoubtedly saved Hamilton, Toronto and Niagara Falls, N.Y., from similar experiences.

So rigidly is compulsory vaccination enforced in Germany that no outbreak of smallpox has developed among the Germans for years. Germany has no smallpox hospitals. If smallpox develops in a foreigner coming into the country, he is sent to one of the general hospitals; this is done with perfect safety, as all in the hospital are absolutely protected by efficient vaccination. Smallpox is one disease from which we have an absolute protection.

An intelligent young man, who had recently recovered from smallpox with a badly disfigured face, however, in conversing about this disease, said: "It is hard enough for one to be disfigured for life without feeling, in addition, that one is forced to carry this badge of ignorance on the part of both his parents and himself."

The following challenge has recently been thrown out by Dr. Sir William Osler: "A great deal of literature has been distributed casting discredit upon the value of vaccination in the prevention of smallpox. I do not see how anyone who has gone through epidemics, as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of the *Journal of the Anti-Vaccination League* for a curious silence on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal—I will go into the next severe epidemic with ten selected vaccinated persons and ten selected unvaccinated persons—I should prefer to choose the latter as follows; three members of parliament, three anti-vaccination doctors (if they could be found) and four anti-vaccination propagandists, and I will make this promise, neither to gibe nor jeer when they contract the disease but to look after them as brothers, and, for the four or five who are certain to die, I will try to arrange a funeral with all the pomp and ceremony of anti-vaccination demonstration."

Intercepting Traps in House Drains.

The Local Government Board of Great Britain appointed a Departmental Committee in 1908 to inquire and report with regard to the use of the intercepting trap, and after three years of careful and ex-

tended work the report was presented. The summary and conclusions in respect to this much debated question are of interest to Canadian Health Authorities. The Committee found that the disadvantages in the use of the trap "are substantial and of serious practical importance," that "the most important effects of these disadvantages are concealed from view, and may remain in existence, quite unknown to the householder," and "the construction of house drainage may be simplified by the omission of the intercepting trap." The disadvantages may be obviated by omitting the fresh air inlet. The only ventilation required, apart from anti-siphonage pipes is that an opening should be provided by an opening at the top of each sort pipe.

The liability of the trap to become blocked constitutes its most serious disadvantage. This was found to be the case in 23 per cent. of 5,600 traps examined. This tendency to block can be minimized "by constructing lower portion of the house drain of iron pipes, and by closing with a removable cover the usual open channels in the inspecting chamber."

"It seems to be established that the trap does serve as an effectual barrier to the entry of sewer air into the house drain." It is not liable to be forced by pressure of air from the sewer, chiefly because sewers are not air tight; and, even when a trap has been forced in this way, water seal is not destroyed. It was also found where the intercepting trap was absent the traps on an unventilated house drain are, similarly, not liable to be forced, and when, owing to exceptional circumstances, such as the absence or the blocking, of the ventilating shaft, only one trap is liable to be forced and that the one which has the weakest water seal.

The main sources from which sewer air may enter a house where the intercepting trap is absent are defects in the drain and the open top of the soil pipe or ventilating shaft, the entry being in either case merely passive, or actively induced by aspiration in consequence of difference of temperature. The Committee report that the entry of sewer air into dwellings through defects in the drain may be excluded if the house drain is constructed of iron pipes; and in its opinion, an iron drain can be made absolutely air tight

without serious difficulty and usually remains so, being contrary to what is feasible in the case of stoneware drains.

In studying the question as to the difference upon the inhabitants of a house between the entry of sewer air and drain air, a study was made both chemically and bacteriologically. It was found that the most frequent characteristic of sewer air is the smell, which is due to volatile substances given off from sewage in harmless quantities, sulphuretted hydrogen not being usually present and micro-organisms of sewage origin being rarely present, while they may be present in drain air in large numbers.

The bacteriological evidence indicates that the bacterial danger of sewer air is incomparably less than the bacterial danger of drain air.

This evidence was confirmed by experiments on animals, they being adversely affected by exposure to the concentrated effects of putrifying excrementitious substances, while they were not effected in growth and nutrition or in their susceptibility to disease by exposure to sewer air. This was also confirmed by epidemiological evidence.

In respect to these two grounds of inquiry the Committee was of the opinion that the necessity of the intercepting trap had not been established; and the necessity or otherwise of the trap is narrowed down to the issue whether sewer air will be more or less perceptible to the sense or smell with or without the trap. In ordinary cases it is less perceptible when the trap is omitted because opportunity is afforded for sewer air to escape at a height above the ground. Exceptional cases are noted where the trap may be required in order to prevent smell from sewer air escaping from the tops of ventilating shafts of house drains; and, as circumstances vary in different localities, the question of its use or discontinuance is one to be considered by the local authority. The question of the free ventilation of sewers appears to be unnecessary, either for the prevention of pressure of sewer air on traps or for the safety of sewer men, except in the case of sewers large enough to admit them. Even in such sewers it is dangerous to rely on ventilation alone, and special precautions should always be taken. Even when the most

elaborate measures are adopted it is exceedingly difficult to insure that sewers are really ventilated. The prevention of nuisance and smell makes it necessary that any openings deemed requisite for ventilation should not be at the ground level.

The Committee in its investigations established the fact that sewage microbes in drain air were wafted to considerable distances by currents of air; and there is a relationship between the splashing of sewage whether the trap is present or not. If, therefore, exposure to drain air is related to attacks of sore throat or other septic affections, the explanation is found in the liability of drain air, not sewer air, to carry in suspension large numbers of microbes of sewage origin. Hence, in the construction of drains, the possibility of splashing should be taken into account. The importance of the placing of the tops of soiled pipes and of the ventilating shafts of house drains as remote as possible from windows, whether the intercepting trap is present or absent, is clearly emphasized.

North Carolina Health Almanac.

The foreword of the North Carolina Almanac states:

"This bulletin, as you will observe, has a hole for a string in the upper corner. It is earnestly hoped that every copy will be hung on a nail within easy reach of one of the calks in the horseshoe of the family circle about the fireside. We venture to hope that this almanac, when hung upon that nail, will not be made the companion of some patent medicine almanac. The two are not naturally companionable; their ideals are as far apart as truth and fraud, or as altruism and selfishness."

On the subject of quarantine it has the following to say:

"The dangerous contagions should be quarantined:

"a. Because every case of contagious disease comes from a pre-existing case.

"b. Because there are 675,000 contagious diseases so contracted every year in the United States.

"c. Because there are 16,000 contagious diseases so contracted every year in North Carolina.

"d. Because there are 1,200 deaths from contagious diseases every year in North Carolina.

"e. Because, according to a high court of science, at least half of these cases and deaths would have been prevented by an efficient quarantine.

"f. Because the infringements of quarantine cost at least five times as many lives as infringements of the law against murder, as shown by the census statistics.

"g. Because rigid quarantine enforcement is, therefore, five times as important as the rigid enforcement of the law against murder.

"h. Because you believe in quarantine for your next door neighbor's child when it is afflicted with whooping cough, measles, scarlet fever, or diphtheria, and your child has never had the disease which its companion has, and your opposition to quarantine arises only when conditions are reversed. In short, you should believe in quarantine because you believe in the golden rule.

"Only a rigid quarantine should be established. If a quarantine law is only half-heartedly enforced, as it is in most places, there will be many cases of contagion on the streets, in schools, churches and other public places. Under such circumstances parents who have more confidence in their local government than they should have will allow their children to go around and to come in contact with contagion that they have been led to believe is in quarantine.

"If, on the other hand, the local government frankly announces that no quarantine for any disease will be established, parents, instead of having a blind, misplaced confidence in an untrustworthy health administration, would keep their children at home, and so protect them.

"It is, therefore, perfectly clear that quarantine should either be rigidly enforced or not attempted."

STANDARDIZATION OF DISINFECTANTS.

Report of the Council on Pharmacy and Chemistry.

Believing the general adoption of a standard method for the valuation of disinfectants important, the Council appointed a committee to consider the feasibility of adopting such a method. The committee submitted a report which was adopted by the Council, with the recommendation

that it be published. Following is the report.

W. A. PUCKNER, Secretary.

Your committee, having considered the question of the recommendation of a method for the standardization of disinfectants, respectfully submits the following:

In the examination of disinfectants it is necessary that due attention be paid to certain factors which have an important bearing on the results to be obtained, among these factors being the test organism, the temperature of the experiment, the proportion of culture to disinfectant, the amount of inoculation in subculture tubes, the media for subculture and organic matter. Neglect of attention to these factors will necessarily result in misleading results. There are at the present time three methods that may be given consideration.

Rideal-Walker Method.

The first is the Rideal-Walker method, extensively used in England and the British colonies. The original Rideal-Walker method seems to have the following objectionable features: (1) the latitude allowed in determining the co-efficient; (2) the lack of definiteness in the proportion of culture added to the disinfectant; (3) the latitude allowed in the temperature of medication; (4) the use of seeding tubes 5 inches by $\frac{5}{8}$ inch with cotton plugs, which necessitated their removal from the water bath and (5) the possibility of shaking from the sides of the tube organisms that had not been fully exposed to the action of the disinfectant and thus giving erroneous results.

The first objection has been eliminated by some workers, by arbitrarily limiting the determination of positive or negative result to a $2\frac{1}{2}$ -minute or 5-minute period. The other objections, however, still stand.

The Lancet Method.

The second is the Lancet method, a modification of the Rideal-Walker. Although in some respects a distinct advance over the Rideal-Walker method, it possesses the following objectionable aspects: (1) Variations in strains of *B. coli* communis; (2) McConkey's bile salt media exert a variable but none the less restraining influence on attenuated organisms of the typhoid-colon group; (3) the method gives no definite rule for decreasing the

strength of dilutions tested; (4) lengthening of the time to thirty minutes appears to have no very special advantage; (5) the special apparatus required, particularly the spoons, interferes to some extent with the general employment of the method.

The Hygienic Laboratory Method.

The third method is that known as the Hygienic Laboratory phenol co-efficient. This method has some of the features of the Rideal-Walker method as well as the Lancet method, but also contains important modifications. This method has been quite generally adopted in the United States and is now used by the Federal Government in connection with the purchase of disinfectants. It has also been officially adopted by some State Boards of Health. At the Annual Conference of State Boards of Health with the Public Health Service, held in Washington, D.C., June 1, 1912, the following resolution was passed:

"Resolved, That the United States Public Health Service Hygienic Laboratory method for the determination of the phenol co-efficient of disinfectants be recommended to the several State Boards of Health as the standard method; that all regulations regarding disinfectants be based on this standard; and that the phenol co-efficient be required to be stated on the label of each package containing such disinfectant."

It is evident from the above statements that the method is coming into very general use in the United States and probably will supplant the other methods for the standardization of disinfectants in this country.

As originally proposed, the method did not require the use of organic matter in performing tests, but has recently been modified, so that the test may be used either without or with organic matter.

Your committee has considered the question carefully and has decided to recommend to the Council the adoption of the Hygienic Laboratory phenol co-efficient as published in Hygienic Laboratory Bulletin 82. The details of the test, as well as a discussion of the various factors concerned in the standardization of disinfectants, are described at length in a paper entitled, "A method of standardizing dis-

infectants with and without organic matter," in the bulletin referred to above.

The Sterilization Bill.

Senate File No. 5 is "An Act to Provide for and Authorize the Sterilization of Defectives, Habitual Criminals, Persons Convicted of Carnal Abuse of Female Children Under the Age of Fourteen Years, and to Punish Unlawful Sterilization."

This bill is modeled after similar bills in other states and is our effort to weed out inferior persons who propagate their kind. If the bill simply covered the defective classes it would practically accomplish all that was desired. If, however, it covers the class of defectives who are commonly known as criminals or who spring from criminal family it would satisfy a group of people who believe that the criminal belongs to an hereditary type. This latter class, however, should be dealt with from a broader viewpoint than simple sterilization.

The bill fortunately provides for a thorough investigation of the individual before sterilization is ordered. In order to safeguard the operation a commission composed of the chief medical officer of a state institution, the secretary of the State Board of Health, and one other competent physician and surgeon appointed by the State Board of Control shall decide upon the procedure. The inquiry of this board is to be thorough and no hasty conclusion is possible. In fact, the individual, if a criminal or in possession of his mental faculties to such a degree as to enable him to understand the situation, is to be given legal notice of the findings of the board.

The bill provides further for a hearing if the victim objects to the operation. This provision is probably necessary from a legal standpoint, but the opinion of the board should be final.

The inmates of institutions may request the operation for sterilization and no legal proceedings are then necessary. This proposition has worked out in many states to the satisfaction of all parties. In Indiana a number of criminals have willingly submitted to the vasectomy after the situation has been explained to them. When a man understands that the operation is a simple one, that it does not injure his health or sexual desires, he cheerfully permits the operation.

The greatest benefit of the bill is in the sterilization of defectives. It has been shown that defectives multiply and produce their kind in an alarmingly increasing number, hence it is imperative that some radical measures should be adopted to prevent this increase.

The following figures for the preceding twenty years are compiled from the 1910 biennial report of the State Board of Control:

Increase in population	59.4%
Increase of inmates of the hospitals for the insane	149.1%
Increase of convicts in Stillwater and St. Cloud	148.4%
Increase of inmates in the school for feeble-minded	380.7%

Convicts and insane in twenty years have increased two and seven-tenths times and inmates of the school for feeble-minded have increased six and nine-tenths times, relatively, as fast as population.

These figures show the necessity of sterilization. The operation can be performed on males in two or three minutes without pain or local anesthetic and without discomfort of any sort. In fact, it has been found that the general health is improved. The question of the sterilization of the woman is a more difficult problem, but it can be done by a surgeon, under an anesthetic, general or intra-spinal, in a remarkably short time. It is, however, a laparotomy, but of the simple form.

The bill should become a law and the working of it will soon demonstrate its effectiveness.—From the *Journal-Lancet*.

Mr. Stimson and the Canteen.

The question of the army canteen is once more brought to the front by Secretary Stimson's report on the manners and the morals of the soldier. Probably Mr. Stimson might just as well hold his tongue for all the effect that his utterances will have upon the little group of noisy agitators whose persistence first secured abolition of the canteen and whose unyielding prejudices have prevented its restoration. But Mr. Stimson, as Secretary of War, is bound to present the facts, and it is well that he should do so for the benefit of those who wish to know the real causes of army vice and to lay the blame

at the right doors. And the blame very obviously lies at the doors of those who supposed that the soldier could be discouraged from drinking by the simple expedient of sending him from the barracks, where he could be supervised and restrained, to the infamous dives outside the barracks, where he could be neither supervised nor restrained. That a few pious women by the mere force of clamor should be able to regulate the barrack life of soldiers and to enforce their own will against experience and prudence is one of the marvels of our civilization. If it were less serious it would be laughable. But it is not laughable that a small number of "reformers" should stand so obstinately as a barrier between the soldier and his protection from the most degrading bodily ills.

Mr. Stimson tells us that he has personally visited forty-nine of the army posts. In every instance he found a nest of vile and filthy dives just beyond the reservation gates, laid and baited as traps for the damnation of the soldier. He found, upon inquiry, that certain unmentionable diseases were claiming more victims in the American army than all other important diseases combined, more victims than in any other army in civilization. And Mr. Stimson has no doubt as to the cause for this cruel and abominable state of things. He tells us that it is due to the abolition of the canteen and to the fact that a maiden-aunt legislation has driven the soldier into these dens of iniquity where alcohol is the very least of the evils that await him. In the old days the soldier drank beer in the army canteen, and presumably it was good beer. He had neither the temptation nor the opportunity to drink to excess, and still less to debauch himself. Left to himself and treated as a human being, his natural tendencies would lead him to do neither the one nor the other. And it may be said incidentally that the soldier has as good a right to drink a glass of beer as to eat his dinner, and as good a right as a woman has to drink a cup of tea. To say that he shall not drink a glass of beer in barracks has no other effect than to send him straight to the dives that are thus invited to collect around the reservation gates and that are no less than miniature hells in the variety of moral

and physical damnation that they dispense.

Mr. Stimson has said no more than his predecessors, and probably he has said it just as fruitlessly. It is one of the disheartening mysteries of our civilization that a small organization of clamorous prejudices and ignorances can outweigh in influence the careful voice of prudent experience, and that it is able to coerce a governmental authority that remains unmoved alike by demonstrated fact and by the warnings of knowledge and intelligence. But it is just as well to place upon record that the debauchery of the soldier is due far less to himself than to the social pieties that are mentally unable either to see things as they are or to interpret them in the light of reason.—San Francisco Argonaut.

The Use of Night Soil in the Vegetable Garden as a Possible Disseminator of Disease.

It is customary in investigations to discover the causes operative in the production of outbreaks of typhoid fever, to inquire, among other things, as to whether persons who have been attacked by the disease have used fresh or uncooked vegetables as part of their diet during the two or three weeks prior to the onset of the disease.

The reason for making such inquiry is that in some localities vegetable gardens have been handled in such an insanitary manner that they have become a danger to the community, not only for the reason that typhoid fever can be spread through the agency of vegetables, but because other serious diseases, such as amebic dysentery and bacillary dysentery, may be transmitted in the same manner.

It has been the custom in the Orient, for no one knows how many years, to use night soil as a fertilizer in vegetable gardens. In fact, the practice is so common that there is a regularly established traffic in this commodity, and owners and operators of vegetable gardens, in addition to carefully saving the excrement of themselves, their families, and laborers, make periodical trips to the nearest market for the purpose of purchasing such additional material as may be needed. An understanding of this custom will make plain the reason why disease, due to practices of this

kind, is common in Oriental countries.

The method of using the material varies in different localities. The practice is first to mix a certain amount with the soil at or near the time of planting the seed; then at later periods, when the vegetables are growing, to sprinkle a thin solution of night soil from a sprinkling can over the growing vegetables. In certain portions of the Orient it is a common thing to see a laborer walking between rows of young vegetables with a bamboo pole over his shoulder from each end of which there hangs a sprinkling can. The streams from these cans are carefully directed onto the tops of the young vegetables, and two rows can thus be treated at one time.

In certain portions of the United States it is not uncommon to use sewage as it issues from the sewerage system of cities or towns for irrigation purposes, either by diverting it into a channel which leads through the garden, or by dipping it from polluted streams, vaults or vats, and applying it. In several communities, owners of large vegetable gardens collect night soil, and furnish, clean, and change the pails or receptacles, free of charge to the householder. In these instances the matter collected is usually mixed with the earth of the garden.

It has been found that vegetables grown in soil infected with the germ of typhoid fever had the germs of the disease upon the leaves and stems 31 days after the soil was infected, and the same germ was found in the ground itself 35 days after it was infested. Rainfall and sunlight, did not kill or remove the germs.—Reprint, Public Health Reports, 1913, 592.

Proper Illumination of the Operating Table.

Hospital authorities have, in the past, experienced considerable difficulty in obtaining proper illumination for the operating table.

Surgeons have frequently been obliged to perform delicate operations with insufficient light on the patient, and in many cases the surgeon's head has been subjected to an intense heat caused by radiation.

Working in this manner, under poor lighting conditions, and at the same time suffering positive discomfort, it is not surprising that surgeons should enthusi-

astically endorse the Frink Ventilated Operating Reflector.

This reflector is designed on scientific lines, and is the product of long and careful study to produce an illuminating device which will give the proper quality, intensity and distribution of light—with a minimum of heat. So brilliant is the illumination produced by a Frink Reflector that every minute detail of the body is shown in perfect clearness.

The reflector proper is made of white enameled metal, designed for six 100-Watt Tungsten lamps. Its useful illumination is increased *eight-fold* by the use of silvered ripple glass. By this scientific method an intensity of 43 foot-candles is produced on the working plane. No other known device gives such a brilliant, white light and concentrates it so effectively upon an operating table.

An equally remarkable feature of the Frink Reflector is its ingenious ventilating arrangement. It would be impracticable for a surgeon to operate under a working intensity of 43 foot-candles if the heat were not automatically carried off. The patented Frink construction provides for this in the following manner:

Two tubes or funnels are mounted vertically inside the reflector. When these funnels become heated a partial vacuum is created within them. Cool air is drawn in between the two glass plates, while the heated air is expelled through the funnels. The ingenious arrangement of these two plates and the funnels insure a constant circulation. The natural result is a bank of cool air above the head of the operating surgeon, enabling him to work without discomfort. Careful tests have shown only eight degrees variation of temperature after an hour's continuous use.

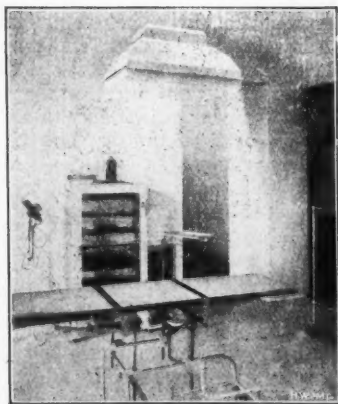
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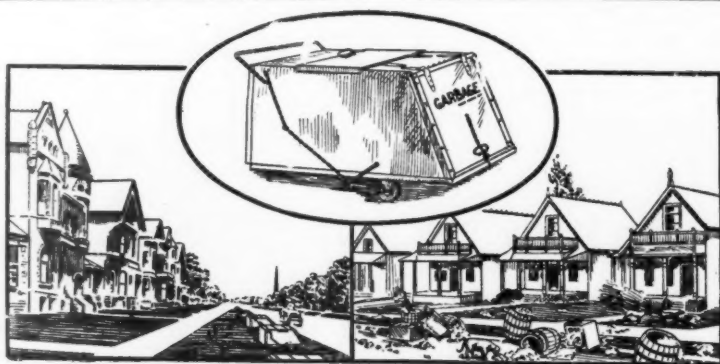
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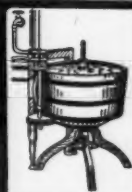
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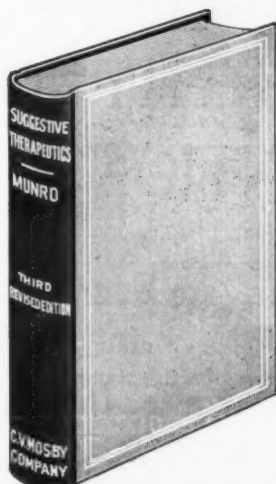
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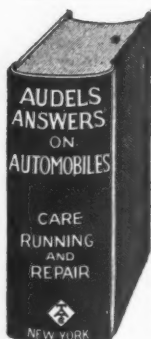
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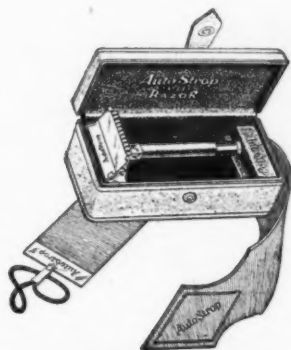
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Healthy Sanitary—Built to Last

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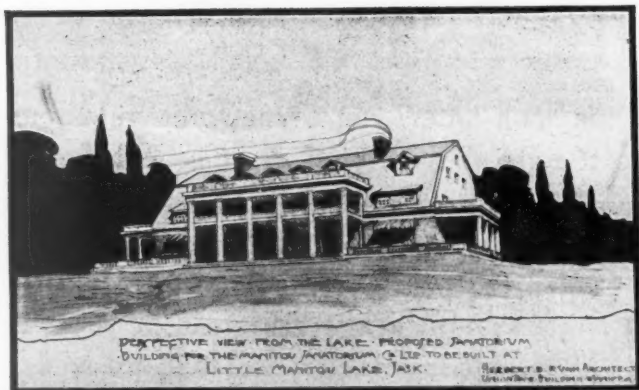
The Standard Bedding Co.

WHOLESALE BEDDING MANUFACTURERS

27-29 Davies Avenue,

Toronto, Canada.

Where The Wonder Waters Win!
AT
LAKEVIEW BEACH
LITTLE MANITOU LAKE, SASKATCHEWAN



PROPOSED MANITOU RHEUMATISM SANATORIUM

Win health and wealth for yourself and family by investing in a home site at **Lakeview Beach**, on Little Manitou Lake.

Thousands of people are visiting this place to bathe in its wonderful waters, which compare favorably with the famous Carlsbad water, but are even more buoyant. Many cures are being recorded, and people from all parts of the United States and Canada are buying property at **Lakeview Beach** for summer homes. It is the Saratoga of Canada and Carlsbad of America.

Let us send you our pamphlet of testimonials—they will convince you.

Lakeview Beach will be a case of another city springing into existence over night. Remember Saskatoon and Regina. **Buy when the town is young.**

The most attractive locations are being rapidly taken up. This may be your

Last Opportunity—do not make it a **Lost Opportunity**.

Lakeview Beach is a short drive from Watrous, a divisional point on the Grand Trunk Pacific, about 400 miles from Winnipeg and Edmonton. It is the prettiest spot on the lake, and is the site for the new sanatorium which will be built shortly.

The property will double and quadruple in value, inside of a year. Investors who have studied Western conditions will quickly realize the marvelous future that **Lakeview Beach** has before it.

Lots, all regular size, range from \$75.00 to \$500.00 each, according to location.

TERMS: $\frac{1}{4}$ cash, balance in 6, 12 and 18 months, 5%.

We can't tell the whole story in an ad. —Come and see us. Or write and we will send you full information.

The Walch Land Company

Head Office:

Northern Crown Bank Building, Winnipeg, Manitoba.

Branch Office:

339 Confederation Life Building, Toronto, Ontario.

Murray - Kay Limited



The Gossard

*A World Famous
Make of Front
Lacing Corsets
sold in Toronto
only by Murray-
Kay Limited.*

¶ Ever since we introduced Gossard Corsets to our clients as the best of all front lacing corsets, we have been favored year after year with a largely increased demand.

¶ The front lacing principle in corsetry has received the approval of many physicians of high repute, but this is only one of the reasons for the popularity of the Gossard.

The beauty of the various models with their smooth, unbroken back line; the comfort they give, and the perfect foundation they supply for morning, afternoon and evening costumes are features of the Gossard that make very strong appeal to well dressed women.

¶ Gossard Corsets are made in so wide a range of models and sizes that practically every woman can be fitted with a Gossard that will enhance the gracefulness of her figure and give her every corset satisfaction.

¶ *A booklet illustrating 17 different models of the Gossard will be sent on request. Write for it if you cannot make it convenient to call.*

¶ Gossard Corsets range in price from \$4.50 to \$16.50 per pair.

¶ In other makes we carry a full range of Corsets at from \$1.25 per pair upwards.

MURRAY - KAY Limited

Sole Toronto Agents

17 to 31 King St. E., Toronto

Duncan's Aldoform Tablets

These Tablets are composed of Formaldehyde in combination with sugar, etc., and suitably flavored, so that the pungent taste of the Formaldehyde is completely covered.

Aldoform Tablets (Duncan) are intended to be slowly dissolved in the mouth, thus allowing the valuable antiseptic powers of the Formaldehyde to have full therapeutical effect.

These Tablets are a powerful remedy for septic throats and any foul conditions of the mouth, such as occur in cases of fever, etc. They are extremely useful for juveniles and others to whom gargling is a difficulty. They quickly control bacterial growths and form a perfect antiferment for oral purposes.

Aldoform Tablets are absolutely devoid of all irritating properties and being non-toxic can be frequently used without producing ill effects.

Each Tablet contains 1 per cent. of Formaldehyde.

Duncan, Flockhart & Co.

EDINBURGH and LONDON

MAY BE ORDERED THROUGH ALL RETAIL DRUGGISTS

SAMPLES ON REQUEST

R. L. GIBSON,

88 Wellington Street West, Toronto, Ontario

Diabetes Mellitus

Osler described diabetes as "a disorder of nutrition." Physiological experimentation has proved that its immediate cause in most cases is absence or deficiency of certain internal secretions of the pancreas due to pathological conditions resulting in loss of function of the islands of Langerhans.

Trypsogen meets the nutritional defect by a combination of trypsin and amylopsin with gold and arsenic bromides and the deficient hormone action, by furnishing these necessary elements.

Trypsogen exerts a profound influence over nutrition which is shown by a marked increase in weight and strength, hence is a very valuable adjunct in the successful treatment of all diseases accompanied by a marked decline in weight and strength and loss of resisting power. Its special field of usefulness has been in the treatment of Diabetes Mellitus.

A series of valuable monographs on this subject may be had on request.

Trypsogen is carried in stock by Canadian jobbers.

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29 Sullivan Street.

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